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UNIVERSITY OF CAPE TOWN

**Faculty of Humanities
Department of Education**

Investigating a Developmental First Order Change Innovation within a
Participatory Inset Model

A dissertation submitted in partial fulfillment of the requirements for the
degree of Master of Education

By Vagriuah Kariem

February 2003

DECLARATION

I hereby declare that this dissertation is my own work and that all the sources of reference have been acknowledged. This dissertation is submitted in partial fulfilment of the requirements for the degree of Master of Education at the University of Cape Town. It has not been submitted before in whole, or in part, for any degree or examination at any other university.

Signed: _____

Signed by candidate

Vagriuah Kariem

This 14 day of FEBRUARY 2003

ACKNOWLEDGEMENTS

I am honoured, grateful humbled and very blessed to have been so generously assisted, encouraged and supported through this amazing learning experience by so many unselfish people.

My heartfelt gratitude firstly, to my supervisor, Ms. Jean Baxen, who unselfishly invites her students into her invaluable and insightful house of wisdom and tirelessly directs them to the thresholds of their own abilities. What a lady, worthy of emulation as a person and a teacher.

Secondly, I am indebted to many lecturers for their insights during the course work component that formed the basis of this dissertation, Professor Kevin Rochford, Mr. Chris Breen, Mr. Johan Esterhyse, Mr. Nigel Bakker, Ms. Heather Jacklin, Professor Paula Ensor and Professor Michael Kahn.

Thank you to Ms Ingrid Thom and Mr. Henry Davids for their supportive administrative assistance. Gcobisa, Lee-Anne and Catherine, thanks, ladies, when the going got tough, you kept me going.

My gratitude is also extended to my colleagues at the Western Cape Primary Science Programme for their continual trust, belief, encouragement, endless support and the space that you allow me to grow as both a person and a professional. I am truly proud to be a member of the PSP team led by the incredible Mascha Ainslie.

My blessed family on whom I can always depend. All my friends, especially you Gairoenisa for supporting the convictions by which I choose to live my life and Shukri, my life long confidant, ALWAYS!

Finally, my daughter Tasneem and son Mika-iel, the essence of who and what I am and do. Shukran my babies for always being so considerate and allowing mommy to engage in adventures like completing this dissertation and never complaining when my time with you both was compromised to achieve this joint success.

ABBREVIATIONS

C2005	Curriculum 2005
FOCI	First Order Change Innovation
INSET	In-service Education and Training
LP	Learning Programme
CNE	Christian National Education
FP	Fundamental Pedagogics
M	Matric, standard ten, grade 12
NGO	Non Governmental Organisation
NGEO	Non Governmental Educational Organisation
PSP	Primary Science Programme
ANC	African National Congress
OBE	Outcomes Based Education
NDOE	National Department Of Education
SAIDE	South African Institute for Distance Education
NQF	National Qualifications Framework
NPD	National Policy Documents
WCED	Western Cape Education Department
CEPD	Centre for Educational Policy Development

ABSTRACT

Using a qualitative participatory research design with a sample of twenty teachers, this study was aimed at examining and reflecting on the participatory in-service developmental model as a vehicle for change during the implementation of an innovation. The study further sought to examine the self-perceived impact of the first order change innovation on the teachers' classroom practices.

The results suggest that models of inset provision that acknowledge teachers as people and provide them with a tangible resource to implement in the classroom, go some way towards acting as a catalyst in bridging the gap between policy and the first steps of change in the classroom.

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1 INTRODUCTION

Education in South Africa is currently facing the challenge of implementing a new curriculum that aims to undo years of exclusionary apartheid policies so as to ensure access to everyone at all levels of education. This reconstruction of our education system is inevitably accompanied by tensions and challenges as a result of, amongst other things, the insidious effects of past apartheid policies that have been detrimental to all sectors of education including teacher education and training, a vital component of the educational machinery. One of the major consequences of the past system is that many teachers are currently not fully qualified, adequately skilled or confident to take on the awesome task of implementing the many demands of a new curriculum

One of the key characteristics of the current post-reform era is the promulgation of legislation with its concomitant new policies and proposed systems of operation. Commonly, such reforms only set broad parameters and frameworks and seem to pay little attention to the actual implementation at the chalk-face. Within the field of education, the new education reform implemented through C2005¹, provides the curriculum framework but does not account for the teachers, the implementers, who must make the improvements happen (Hargreaves, 1997). Teachers are the indispensable agents of educational change, and as Fullan and Hargreaves suggest, 'if a teacher can't do it, it simply can't be done' (1996: 67). If teachers are indispensable to the implementation of any educational innovation, then it seems imperative that they be considered as key informants in the process of development and implementation of the innovation.

The literature on teacher development surveyed for this research indicates that, internationally, any attempts to impose change on teachers have been notoriously unsuccessful. According to Fullan (1992), Sikes (1992), Jansen (1999) and Goodson (1998), far too many education departments have taken a generalised, hyper-rational managerial approach and have failed to take a realistic view that acknowledges that (a) teachers are, first and foremost, people, and (b) schools are social institutions.

This managerial perspective almost always allows for the inclusion of un-interrogated assumptions that structures the delivery mode and limits the possibility of meaningful learning and classroom implementation after in-service training sessions. The first assumption is that teachers, by virtue of them teaching in a particular phase, all have the same level of understanding or lack of understanding concerning proposed innovations. The second assumption is that teachers all learn in a similar way. Hence, uniform in-service programmes are developed that cater for these generalized assumptions (Sikes, 1992).

As will be evident in the literature review, very little is available regarding *what* teachers can use and *how* they can be enabled to bridge the gap between policy and implementation during the initial phases of an innovation (Fullan, 1992).

This study sought to examine whether a first order change innovation (FOCI) within a participatory in-service model could be an enabling and supportive catalytic tool for primary science teachers to begin implementing the new curriculum requirements. In particular, this study sought to examine whether this first order change innovation (FOCI) could be used to bridge the gap between policy requirements and classroom implementation.

2 CONTEXT OF THE STUDY

The Primary Science Programme (PSP) is a non-governmental educational organization (NGEO), formed in 1983 in response to the critical shortcomings highlighted by primary science educators due to the effects of apartheid education policies and practices in education. It initially set out to train, develop, resource and support primary science education in historically disadvantaged 'black' schools.

During 1999, after the WCED's OBE In-service training, educators were expected to develop learning programmes for classroom implementation as required in the new Curriculum Policy Documents of 1997. This new and unfamiliar requirement resulted in many schools

¹ C2005 was revised in 2001 in order for it to be streamlined and strengthened. In 2002 The Revised National Curriculum Statements (RNCS) was released for implementation in 2004. This study was conducted 1999-2001, during the implementation of C2005 and thus will not refer to RNCS.

requesting assistance in the development of these learning programmes. Due to the overwhelming requests from educators the Primary Science Programme team set out to:

1. engage in a participatory in-service programme with the view to designing and developing an example of a natural science learning programme on Matter and Materials.
2. support educators during the implementation of the learning programme in their classrooms through follow up classroom sessions at the respective schools.

As a facilitator within the project, I located my study within this changing context. The study undertook to examine the extent to which a developmental first order change innovation (FOCI) within a participatory In-service model could support teachers in their attempt to implement the new curriculum in primary science classrooms.

3 AIMS OF THE STUDY

The aim of the study is thus two-fold:

1. To examine and reflect on the participatory in-service developmental model as a vehicle for change during the implementation of an innovation.
2. To examine the self-perceived impact of the first order change innovation on the teachers' classroom practices.

4 RESEARCH QUESTIONS

- How did the participatory model process enable teachers to begin engaging with change according to their self-reported reflections?
- How did teachers describe the extent of their implementation of the FOCI and the associated challenges?
- How did teachers perceive the FOCI as an enabler in beginning to change their classroom practices?

5 LITERATURE REVIEW

The literature surveyed revealed an overwhelming emphasis on the individual teacher as pivotal to the implementation of any proposed change. However, much of the literature focused on broader general issues that facilitate change rather than on any specific practical

tool that could be used to assist teachers to implement proposed change in the classroom. (Fullan & Hargreaves, 1996).

It is worth noting that the participants within this study were all trained prior 1994 (before the establishment of a democratic government). It would, therefore, be important to understand the historical educational context of these teachers as a backdrop to understanding Inset provision and change in South Africa.

The first part of the review provides the historical framework within which teacher training and development needs to be understood. The second section examines change within educational settings. Particular emphasis is placed on understanding the nature of change, factors facilitating change and teachers' engagement with change. The third and fourth sections lay emphasis on teacher training and development with an understanding of the nature and models of training. The final section provides a rationale for the proposed model used in this study. Thus the structure of the literature review includes:

- Historical Overview of Teacher Education in South Africa
- Understanding Educational Change
- Teacher Training and development in South Africa and Teachers Knowledge
- Motivations for Inset
- Models of Inset in South Africa
- Rationale for a Developmental First Order Change Innovation (FOCI)

5.1 HISTORICAL BACKGROUND OF 'BLACK' TEACHER EDUCATION IN SOUTH AFRICA

5.1.1 Teacher training since 1948

Until the Nationalist Government came to power in 1948, most teacher training for 'Black' teachers in South Africa was controlled by missionary groups (Christie, 1985). After 1948 the Nationalist Government gradually began shifting responsibility for all teacher training to the state (Walker 1991). In 1954, as a result of the Eiselin Commission's Report of Native Education (1951), the Bantu Education Act ensured centralized state control of all black teacher education by legislating that, in future, teacher education would only be allowed to

take place through government-controlled centres (Salmon & Woods, 1991). By 1968 all training colleges for black teachers were controlled by the Bantu Education Department (Murphy 1985).

The majority of courses offered at such teacher training colleges were seen to have their philosophical and ideological roots in Fundamental Pedagogics, which underpinned the Christian National Education (CNE) system (Flanagan, 1991). What this meant in reality was that, there was to be “no mixing of languages, no mixing of cultures, no mixing of religions, and no mixing of races” (Christie, 1985:160). CNE was rooted in the Afrikaner nationalist struggle to legitimize the interests of the dominant white group (Flanagan, 1991) and to ensure the subservience of blacks within the apartheid system (Unterhalter and Wolpe, 1991). As a result, teacher training courses based on this philosophy treated educational theory as a ‘science’ which must strive to be value-free and classroom practice as applied theory which can only be studied in a neutral scientific way (Flanagan, 1991).

By the 1970's, due to the political Apartheid system, South Africa had 18 segregated education departments for each racial group each with corresponding teacher education institutions. This structural arrangement produced inequalities both in terms of types and levels of teacher qualifications. More detrimental though, is that teachers were trained to only use rigid ‘teacher talk’ teaching methodologies while adhering to inflexible centrally controlled syllabi (Unterhalter, 1991). By implication, certain roles were expected from teachers that ultimately impacted on the type of teacher that the various racial educational departments produced. The following is an instructive example.

Mrs. Mando, a history teacher, walks into her classroom armed with a history textbook, notes for that particular section of the French Revolution, transparencies and ready-made worksheets that she has used for the past ten years unchanged. All she lacks is a guillotine.

Her lesson proceeds with her reading the relevant parts from the textbook. The overhead is then switched on from which the learners copy their notes. Thereafter, she proceeds to ask some questions which she hastily answers herself. Finally out comes the ten year old worksheets which she quickly goes through and tells the learners to complete for homework.

Most of the learners are very quiet as the flood of work allows no space or time for anyone to ask questions.

Learners are so focused on copying everything into their books before the transparencies are removed that they don't dare do anything else. The only sign of learner activity and engagement is the sound of writing.

In such a teaching and learning situation, the learners have not actively entered into the learning situation at all. The teachers' conception of teaching is that she, the knowledge bearer has to give learners information that they have to accumulate and produce during an examination or test. Because there is a set of 'fixed' knowledge (a prescribed syllabus) the old material is perceived as appropriate even though it had been prepared ten years ago. Learner interest and needs, relevance and appropriateness are not considerations within such a classroom. There is a distance between the teacher and the learners as well as the subject matter filling the space between the teacher and her learners. Thus, there is no indicator to suggest that teachers can ascertain whether the lesson made sense to the learners or whether it passed over their heads (Davidoff and Van den Berg, 1990).

In a sense, within the education system of the time, there was no need to question whether or not subject matter was 'relevant, appropriate or meeting learner needs' because the teaching situation was essentially an impersonal or anonymous one, as CNE intended it to be. CNE was designed to perpetuate a lack of contact, to ignore the context and reality of learners. This mode of schooling encouraged children to just accept information they received without questioning it. This meant that they became passive receivers of knowledge, and did not challenge or discuss the teacher's interpretation of a subject.

Teachers were pressurized to deliver the goods by ensuring that learners passed their regular tests and exams on only factual information. If teachers got consistently high marks from their learners, they gained the reputation of 'good and the best teacher', which in many cases, led to promotion and an increase in salary. So, more often than not, the straight transmission mode of teaching was privileged because it was perceived as an efficient mode to 'produce the goods'.

5.1.2 Attempts at reform in the 1980s

By 1980, the De Lange Commission into education expressed the need for teacher education reform due to the continued school boycotts but also in order to satisfy the 'skilled labour crisis' and 'provide for the needs of the economy' (Unterhalter, 1991). The commission recommended that urgent steps be taken to reduce the inequalities between the black and white educational systems with particular mention being made of the inequalities of teacher education (Salmon and Woods, 1991). The Government's White Paper on the Provision of Education (1983) endorsed the commission's recommendations on teacher qualifications by making the official benchmark for teachers qualifications a standard 10 certificate (M) + 3 years professional training (NEPI, 1992). The majority of black teachers only had standard 8 and a two-year teaching diploma. Thus the new ruling meant that nearly 80 000 teachers were now under-qualified (Walker, 1991).

Because teachers' salaries were linked to qualifications, the demand for upgrading courses increased and most colleges of education began to offer part-time in-service courses for un- and under qualified teachers. This situation further strengthened the necessity for Non-governmental organisations to assist teachers to upgrade their qualifications, as many teachers were not willing to participate in upgrading programmes developed by the government of the day and would rather attend programmes developed by anti-government institutions (Argus, May 19, 1992).

The above also resulted in distance education becoming the main means for in-service teachers to improve their qualifications as many teachers were geographically far removed from institutions and could consequently, as a result of such arrangements, continue teaching while studying.

5.1.3 People's Education

Parallel to the above, by 1985/6 the concept of 'People's Education' for 'People's Power' had emerged. People's Education emphasized the development of "a critical mind that becomes aware of the world" (Molobi, 1986:75). Schools were perceived as sites of struggle where

teachers could play a crucial role in implementing change in curricula and teaching practices (Rensburg, 1986).

As the concept of 'People's Education' gathered momentum in the mid 1980's, teacher development agencies and NGO's began to make the link between the political goal of empowerment and the pedagogical goal of encouraging more democratic and participatory approaches to teaching and learning. Because NGO's were outside of government structures, they were strategically best positioned and more importantly trusted by teachers to be the champions of the concept of 'Peoples Education' (Vinjevold, 1994).

According to Unterhalter & Wolpe (1991), the slogan, 'People's Education for people's power, expressed a radical redefinition of the relationship between education and the social system. The core of the people's education policy was that, under the specific conditions of apartheid and capitalism in the mid-1980s', the creation of new education structures and the institution of new practices could contribute to the process of social transformation (Unterhalter and Wolpe, 1991).

The task then of NGO's, together with progressive educators, was to "implement the principles of people's education" and to find ways of addressing "issues of inequality and discrimination in schooling as well as society" (Walker, 1991:69). A number of NGO's and teacher educator institutions therefore began to investigate the potential of using strategies for the development of a critical pedagogy (Flanagan, 1991). As a result, the principle of participatory teacher involvement became an integral part of many enquiry-based approaches to teacher in-service provision within education in South Africa.

Teachers were being mobilised and mechanisms were being put in place so that by the early 1990's, with the un-banning of many political parties including the African National Congress (ANC) and followed by the release of Nelson Mandela, the focus changed from developing teachers political 'consciousness' to developing teachers conceptual (pedagogical) 'consciousness' (Christie, 1999).

5.1.4 The Current Situation

South Africa's political transition from an autocratic Apartheid system to a democratically elected government in 1994, created an urgent need for a reconstructed education system that could provide its citizens with the knowledge, attitudes\values and skills necessary to reconstruct its society and enable them to compete globally (Vinjevold, 1997). To this end, the first move in response to the global changes in education and in line with its' democratic constitution, education policies were put in place. A national qualifications framework was established which aimed at disbanding the previous 18 education departments and establishing a single national department on the one hand and creating mechanisms to give recognition to prior formal and informal learning and access to all its citizens at all formal and informal levels.

At school level, the South African School's Act of 1996 was set in place to avoid any attempts towards any form of discrimination. This act provided the structure that allowed all school communities to take responsibility for teaching and learning activities locally rather than be dictated from a central position.

Outcomes Based Education was the curriculum framework adopted through which the National Qualifications Framework would be operationalised. It sought to build a critical and democratic society through an education system that develops skills and knowledge useful for life and work. This meant changing the system on the one hand, and more critically, identifying appropriate outcomes, on the other hand. The outcomes described the kinds of abilities that all people living and working in South Africa would require to move to further levels of development. The outcomes would also have to ensure that South African citizens could compete globally within a technologically competitive context (SAIDE, 1997).

Central to this change was the curriculum, the enabling vehicle to bring about all the envisaged changes. OBE through Curriculum 2005 marked a major shift away from the previous school curriculum where learning only focused on gaining 'pure knowledge'. Learning in the new OBE curriculum would now involve the development of skills and competencies that incorporated critical reflection (Christie, 1999).

5.1.5 The new curriculum

The new curriculum has led to new expectations of the roles of teachers and has had implications regarding what they did in their classrooms. These expectations include the need for teachers to plan, organize, manage, teach and assess their learners according to predetermined outcomes. They are expected to design, develop and implement learning programmes in their classrooms, a new, challenging and daunting task, which has led to much stress and anxiety. For many teachers this situation is an entirely new teaching and learning experience (Argus, 24 September 1999).

This new role expectation has meant that the teacher is no longer the centre of attention in the classroom. Learners are expected to engage and communicate with each other, to co-operate and share ideas. Central to such a pedagogical approach is group work, an aspect that involves the willingness by teachers and learners to listen and to respect other points of view. Teachers and learners become co-creators - active participants and contributors to the teaching and learning process, with each making contributions, sharing and taking responsibility and discovering new meaning cooperatively.

This new dynamic approach to teaching requires that teachers set up and use carefully, well thought-through, hands-on activities that develop a cohort of learners who are critical thinkers and who can communicate their opinions with confidence and competence. Ultimately the intention of the curriculum is to ensure that both the teacher and the learner take responsibility for the teaching, learning and assessment processes within the classroom.

This curriculum is therefore based on a vision of the new type of citizen needed for our new South Africa, one who would be able to engage locally and globally with ease. But these new roles are not easily bridged by teachers who have been trained to be the knowledge bearers who transfer knowledge to their learners, who it is assumed, know very little. Teachers are finding the changed roles challenging and often times stressful, a phenomenon well documented in the literature on educational change as the following section attempts to illustrate.

5.2 UNDERSTANDING EDUCATIONAL CHANGE

5.2.1 The nature of change

Fullan (1992:45) states clearly that “change is a fact of life, it is a phenomenon that is natural and inevitable and complex”. He emphasizes that change is a process, not an event and that this process is non-linear but loaded with both uncertainty and excitement. He describes it as a ‘journey and not a blueprint’. This definition is supported by Garrett (1997) who defines change as normal, persistent and complex. According to Hargreaves (1998), the process of change needs to be a learning process, one that involves reform, restructuring and reculturing.

Fullan (1993) also warns that difficulties and setbacks are a normal part of any change process, a sentiment echoed by Hargreaves (1998) who describes change as a process that includes positive ideas such as using innovations, developmental strategies, progression, renewal and reform. Fullan (1991:31) further states that, “ultimately the transformation of subjective realities is the essence of change”. Change is threatening and confusing, involving loss, anxiety and represents a serious personal and collective experience that is characterized by ambivalence and uncertainty.

Educational change is understood to involve change in practice, taking guided steps to empower and reorganize the work of teachers’ and schools both individually and collectively in the context of particular school (Fullan, 1993). These guided steps encompass initiation, mobilization and the possible adoption of change, followed by continuation, incorporation and institutionalization. When these steps are actively engaged, two levels of change can occur. On the one level, practices can change and on another level the organizations (school) sense of itself can be altered.

5.2.2 Factors facilitating change

In examining the literature and in an attempt to understand what factors can facilitate change in the educational context, several key concepts emerge. These include the intra-personal, the issue of collaboration, the educational system and the proposed change itself in terms of its content and process.

The intra-personal

Hargreaves (1998) stresses the importance of acknowledging and dealing with the perceptions and responses of those who will be affected by change in their school context. Cuban (1988) agrees that if people are involved they need a lot of encouragement. He explains that teachers must share the belief about the nature and the importance of the change because, in so doing, they will make it their own. They must first be allowed to make sense of the proposed change for themselves before it becomes part of their way of thinking and teaching practice.

According to Fullan (1993) the teachers involved need to be self-conscious about the nature of the change, familiar with the different steps involved in the proposed change process and voluntarily accept it as a positive learning experience, understanding and agreeing on the need for, the importance of and the goals of the proposed change. He states further that every person is a change agent, one's personal mindset and mastery thereof is the ultimate perfection, motivation therefore needs to be engendered and sustained. Whitaker (1998) argues that this can be achieved by creating significantly high expectations without the crippling anxiety that thwarts risk-taking and learning. Acknowledging and enhancing teachers' emotional realities can then act as a buffer during the trying times of change as it can prevent frustration turning into anger and despair.

Teachers' commitment to changing their classroom habits, attitudes and values is vital to the proposed change (Fullan, 1993; Hargreaves, 1998; Whitaker, 1998). Teachers need to be allowed to develop into their own interests, values and sense of purpose through the proposed change process. Whitaker (1998: 33) states that, "change in education practice depends on changes in teachers' knowledge, their professional values and commitments to their teaching practices and the resources that are available for them to be effective in their classrooms".

Cuban (1988) also argues that even though acknowledgement and reassurance is key, emotional support is crucial. Teachers in his view must be provided with incentives to undertake and embrace the proposed change. Change is a complex process, and it is often the mere complexity of an innovation that can render it unsuccessful if teachers can make no sense of it and if implementation appears impossible. Therefore it would seem that carefully thought through professional development and the provisioning of training, resourcing and

support for teachers in the form of participatory school- based in-service may be one possible way of dealing with the complexity of proposed change

Collaboration

According to Whitaker (1998), change within an organization can be facilitated when there is a collaborative culture present and collegiality to develop quality-working relationships that encourage the proposed change. Together with trust and respect, a safe atmosphere can be created where teachers can discuss and reflect on their practices. Wagner (1997) emphasizes the importance of openness, trust and support in facilitating proposed change when teachers show a willingness to share their concerns and problems. Fullan (1993) expands on this and defines peer support as including teachers talking about their teaching practice, observations and feedback between each other regarding their planning, designing and implementation of their classroom practice, as it is in this development of making shared meaning that the proposed change process are facilitated. Hargreaves (1998) agrees that collaborative working relationships between teachers are crucial at a time of proposed change. He also argues that collaboration must extend beyond the school to involve education officials, school administrators, students and parents. Such collaboration ought to be supported by all role players in the educational context. He emphasizes that such collaboration can only be really effective and genuine if it is based on trust, openness, care, attentiveness, risk-taking, active engagement with candid and vibrant dialogue.

The School

Here particular focus is on the school as an organization, the education authority and community in which the organization is located. For the purpose of this study attention will be limited to only the organization (school).

Regarding the school the literature is emphatic in its statement of the importance of good leadership and school culture. Regarding leadership, the vital role of the leaders supporting and facilitating the proposed change cannot be overemphasized (Hargreaves, 1998). Attitudes, abilities, roles and functions that may be necessary to enable change to take place include readiness for the proposed change, assisting teachers to make meaning of the proposed change, simulating the proposed classroom change, being innovative and sharing the power

and control of the proposed change (Fullan, 1993; Cuban, 1988; Showers, 1988; Hargreaves, 1998; Garrett, 1997).

Critical to change and support of teachers during this process of change, is the school culture. Showers (1988) suggests that the school's culture needs to be one which embraces change and includes change in its own vision. Should such a culture not exist, a willingness and commitment on the part of the teachers to create this vision, to change the school's culture becomes even more crucial. In this respect, not only is the culture of the organization instrumental, but so too is the school's structure. Whitaker (1998) challenges schools to change their structures so that they are better able to incorporate both planned and informal changes to strengthen the school's structures. Other structural considerations from the literature include relevant resources (Fullan, 1993); time to engage fully with the proposed change (Cuban, 1988 and Showers, 1988); and mechanisms for communication (Fullan, 1993). According to Fullan (1993), there must be organizational change to support individual change.

Content and process of change

The content and process of change, that is, what change is initiated and how it is implemented affects how successful the innovation will be. Embedded in the content of the proposed change, should be aspects such as understanding the need for the change and ways to address priority needs, ensuring relevance in terms of utility and clarity (Fullan, 1993), a clear long-term focus to maintain and sustain the proposed change (Cuban, 1988) and the provision of opportunities for teachers to engage and reflect on their practice (Davidoff, 1997). Teachers should also be able to see the feasibility of the innovation and make a judgement regarding the manner in which the reculturing and restructuring will impact on the school and on their personal and professional lives (Davidoff, 1997). In considering what might facilitate change, it would seem that the factors needed for change have to be accounted for. These include the need to ensure a balance of individual and collective responsibilities to ensure that the change is democratic and that it addresses real issues and concerns that are recognized and that there is a balance between top-down and bottom-up strategies (Fullan, 1993). Other considerations include the need to have regular consultation with the teachers (Garret, 1997; Hargreaves 1998) acknowledge differences and key, is a consideration of the

context within which the change is to take place (Showers 1988; Garret, 1997). While these might be listed as discreet, it is acknowledged that all these factors work together to facilitate change.

5.2.3 Factors Inhibiting Change

All the authors referenced above also caution against various barriers to change. When exploring factors that could possibly hinder change and hamper the change process, these authors recognize that features such as intra-personal, interpersonal, organizational, district and community are key. In addition, as has already been described above, is a consideration of the content and process of change.

Intra-personal

Hargreaves (1998) alerts change agents about the danger of ignoring emotional aspects of educational change. At an intra-personal level, he warns about the psychological conflicts and how a fear of uncertainty and the unknown can hinder change. Garrett (1997) warns of an inherent unwillingness to change, particularly when individuals' values and beliefs feel threatened or undermined. Fullan (1993) agrees and highlights teacher resistance as a barrier and explains that those who have benefited from entrenched past systems, often resist change. Fullan (1993) further argues that it is the very nature of teacher's work that impacts at an intra-personal level and consequently presents a barrier to change. He explains that teaching exhausts one's energy, it limits teachers' opportunities for sustained reflection of their practices and provides very few incentives for teachers to believe in change.

Interpersonal

Issues of an interpersonal nature that can hinder change include conflicts of values, unresolved grudges and grievances between teachers and unhappiness about the possible redistribution of power that change may bring (Cuban, 1988; Fullan, 1993; Hargreaves, 1998). If these are not acknowledged and addressed, they may create enormous resistance and become major barriers to change.

Organisational

Garret (1997) explains that organizational barriers may exist particularly when the structure of the school is not flexible enough to allow or permit change. Hierarchies within schools result in tight control of the flow of flexible and democratic communication practices, differential access to information resulting in negative patterns of interactions amongst the staff (Hargreaves, 1998). Cuban (1988) explains that change is difficult when few teachers in the school understand the vision. When even fewer teachers contribute to the development of the vision, then implementation of any change is slim. Other practical issues that are constraining include a student population that is too large, a high rate of staff turnover and a lack of resources, time and money (Garret, 1997). Fullan (1993) challenges organizations to develop their capacity to understand, engage with and anticipate change.

District

The next level of the educational system where barriers to change can emerge is at the district level. Here Lewin (1986) argues that standardization and bureaucracy can smother creativity, collaboration, collegiality and the application of innovations. At times the policy can also restrict change. These factors can therefore make it difficult for teachers to take risks.

Community

Fullan (1993) goes beyond the district level and explores the community's impact on change. He argues that change within a school can be hindered when the community members possess limited formal education and present as apathetic or are opposed to particular innovations.

Nature and process of change

Not only should there be consideration of schools, districts and communities barriers but certain issues around the content of innovations may render change difficult and hinder transformation. These include perceptions that the proposed change does not reflect the teacher's needs and that it does not resonate with the teacher's beliefs and values (Lewin, 1986; Fullan, 1993). There may be a perception that the proposed change requires the development of new knowledge and skills (Cuban 1988). There may be a perception too, that the change does not fit into the existing school culture and structures and that the changes that are proposed by policy makers who do not fully understand the realities of classrooms (Lewin

1986). There may also be a belief that too many changes are occurring simultaneously, that there has been poor planning imposed from outside and that it is rushed and that the cost of change is too high (Cuban, 1988; Fullan, 1993; Lewin, 1986).

Summary

As expressed in the literature, change is stressful and daunting, but if managed within a supportive environment, it can be an exciting journey for both teachers and learners. Part of the supportive environment is professional teacher training and development. Engaging teachers in a process that addresses their fears while supporting them in making the change seems vital. What follows is a critical examination of teacher development within the South African context. Key considerations within this section include teachers as the main agents of change, motivations for inset provision and nature and models for inset.

5.3 UNDERSTANDING TEACHER TRAINING AND DEVELOPMENT

5.3.1 Teachers' knowledge and beliefs

Davis (1992) posits that teachers enter the teaching situation with a developed philosophy of teaching. This is a major factor which has to be acknowledged during all teacher professional development and training.

The literature of Young (1985), Sikes (1999), and Lewin (1986), highlights the importance of acknowledging teachers' existing knowledge (subject, theoretical, pedagogical) and how it impacts and affects their current classroom practice. Teachers' pedagogical knowledge is cited as especially important at a time of implementing a new curriculum, and central to the task of teaching according to McNamara (1991), Shulman (1986), Thompson (1984) and Woods (1991).

McNamara (1991) cites the studies of Haustein and Goodson (1989) that are indicative of how teachers' knowledge inhibits or enables them in their ability to deploy a variety of teaching strategies. Cope (1992) also highlights that, as a prerequisite for change, one should effectively and practically develop teachers knowledge by regular participatory interactions among teachers with built in reflection sessions, as this might be a factor that could enhance the quality of teaching. Complementary to the ideas of reflection, is the suggestion that

teachers are able to learn from actively experiencing what their learners have to engage with in their classrooms so that the teachers can experience first hand what their learners will be experiencing. Cope (1992) suggests that this helps the teacher to move from 'ritual' to 'principled knowledge' of the subject and to methodologies appropriate for their learners. Berks (1989), Russell (1993) and Schon (1983) use the term "reflection in action" to describe how teachers can learn from these experiences. They also suggest that, when reflecting upon their practices, teachers move beyond rituals and begin to develop personal understanding of the principles implicit in their actions.

Edwards & Mercer (1987) contend that teachers' past teaching experience has often lead to ritual knowledge being developed rather than desired understandings of principles. By 'ritual knowledge', they refer to a form of procedural knowledge, which is fast, efficient and appropriate to many contexts, but which masks an understanding of underlying principles. 'Principled knowledge' is defined as an understanding of how procedures and processes work. They suggest that when teachers have developed principled understanding of their practice, then only will teachers be enabled to start developing new practices.

Another important aspect to strengthen the teachers knowledge is to work with their perceptions and attitudes regarding learning theories and theories of instruction cited as a key determinant in the shaping of teaching practices by Davis (1992) and Simon (1991). Teachers also have to express how they think children learn as many have been found to teach children according to how they think they should be taught (Simon, 1991). Key too, is the understanding of the variety of theories of teaching currently held by teachers as suggested by Barko and Livingston (1989). Ill informed assumptions may prevail, and may impact on the level of change in the classroom, if these are not addressed.

5.3.2 Teachers and Innovation

Central to any attempts to implement change in schooling anywhere, are teachers and what they do in their classrooms. Teachers play a key role in determining the quality of schooling available to learners (Fullan, 1993; Kemmis 1996). Thompson emphasizes that "change must in the end mean changes in what goes on in classrooms or change means nothing" (1981:159). This means that, what teachers actually do in classrooms is what is the most important

component in any strategy for change. According to Fullan “if teachers’ can’t do it then it can’t be done” (1996:67). The above point is underscored by Lewin when he says that, “Teacher morale, professional support and awareness of educational possibilities during a time of change needs to be addressed through adequate pre- and in-service training which are critical determinants of curricular quality delivery at a time of curriculum change” (1986:130).

At a time of educational change, like the implementation of Curriculum 2005, it seems necessary for the education system to make sure that all teachers understand what is expected from them and how they are going to do it. Fullan (1992) noted that teachers must participate in creating and making sense of the curriculum to be implemented in their classrooms rather than only receiving it from others. Given that teachers cannot be, and should not be, overlooked in the process of teacher development and change, one needs to seriously consider and examine possible factors that might enable teachers to the possibility of change (Fullan, 1992).

But Sikes (1999) reminds us that during educational change processes, often the major concern regarding professional development of teachers is only that of teachers implementing the requirements of the curriculum. Therefore, the teacher training that follows is primarily geared only to enabling teachers to implement policy requirements. There is too often a tendency to forget teachers’ classroom needs and to focus only the needs of policy. What seems to be overlooked is that teachers are first and foremost human beings with real and often unacknowledged, fears and insecurities. Teachers’ personal needs as well as their classroom needs ought to be therefore be acknowledged and form the under-gird of their professional development and training. What studies suggest is that some of the most valuable forms of professional learning are those that involve teachers in connecting them with other colleagues across schools and which provide access to other practices, ideas and advice that they could possibly transfer and incorporate in their own immediate settings (Little, 1990; Giddens, 1995). These authors argue that it is through creating generative and organic participatory teacher practices at the local level that the new struggles and challenges, like implementing C2005, can thrive. The generation of such practices can be facilitated by professional development and training that is in it self, participatory and supportive.

Aluded to in the discussion so far, is that having policy does not guarantee its implementation in classrooms (Goodson, 1998). Furthermore, the surveyed literature suggests that transforming classroom practice is not an easy process and that teachers are pivotal to this process (Pendlebury, 1998; Goodson, 1998; Fullan, 1992). Given this scenario, it would seem that in order to facilitate changed practices in the classroom models should be developed that are contingent to the practicality and the reality of what is happening in current classrooms. Doyle and Ponder suggests three criteria for 'practicality' which include, "instrumentality, congruency and cost by which an innovation may be assessed" (1997:60). Instrumentality poses questions about whether the change describes a procedure in line with classroom contingencies. By congruency, questions regarding whether the change fits into the way the teacher normally conducts classroom activities are posed. Regarding costs, teachers may question whether the ratio between the amount of return against the amount of investment. These questions need to be integral to any teacher training and development programme if teachers are to be enabled and provided with strategies to manage change.

During a time of implementing a new curriculum, it may seem important too that a supportive environment for a culture of teacher training is developed as this is regarded as essential for establishing, maintaining and sustaining proposed changes in classroom practice (Esu, 1991; Levy, 1994; Van Tulder, 1991). This support can take on a variety of forms like, classroom support, access to and availability to a variety of resources, support of colleagues, in-service workers, departmental officials and the school's community to relieve the anxieties that most teachers may experience during this period (Levy, 1994).

Lewin (1986) and Fullan (1992) go further to say that during the implementation of a new curriculum it is imperative to engage teachers in a variety of interactive teaching, learning and assessment strategies and not only in one way of implementing the requirements of policy documents. Keiny (1989), on the one hand, suggests that the inherent potential of new methods and materials could transform classroom practices. He points out that the abilities of teachers and their potential of human agency to use methods and materials effectively to transform their classroom practice should be privileged within any inset programme.

In reality, this means that a vital prerequisite in attempting to change teachers' classroom practice is that innovations should not be incongruent with teachers' perceptions of what is required from them to implement it in their classrooms. This is evidenced in most of the surveyed literature on teacher development that indicates that, internationally attempts to 'impose' change have failed. According to Sikes "this is because a generalized and hyper-rational approach was attempted that failed to take a realistic view which acknowledges that teachers are first and foremost, people, and second, that schools are social institutions" (1992:37). According to Sikes (1992) if the above is not acknowledged, then even the best Inset programmes will fail.

In order to address and to fill in 'the missing gaps' that would enable teachers to start implementing policy in their classrooms, Davidoff (1997) proposes carefully thought through appropriate developmental in-service teacher training which includes the 'tangibles'. By 'tangibles' is meant something practical that the teachers can use in their classrooms like lessons and activities.

What seem needed too are models of in-service training that incorporate all the aspects mentioned in the literature but that extend to include the development of the 'tangibles' that teachers can use in the classroom.

5.4 MOTIVATIONS FOR INSET5

In the case of this research, C2005 (which aims to change the instructional performance of teachers) is currently the main motivation for Inset throughout South Africa. The need to develop lifelong learning for teachers and learners is invoked by Levy (1994) as justification of Inset programmes. She asserts that within the educational context of South Africa, Inset provides a way of dealing with the ongoing educational crisis created by the Apartheid educational policies. In this same context Robinson (1994) notes that the role of Inset is two-fold, namely, to respond to challenges and requirements of the new curriculum and to undo the effects of years of apartheid education policies on teachers.

As such, Levy (1994) and Robinson (1994) justifies the provision of Inset as an essential part of the new government's programme of reconstruction and development. Inset can therefore

be regarded as having the potential to contribute significantly towards the development of human resources in this country (Robinson, 1994). This view is supported in other inset documents regarding inset provision by Hofmeyer (1991), Levy (1994), the CEPD Report (1994) and the ANC Policy Framework Draft Document (1994).

At another level though, implementing educational innovations to bring about possible curriculum change also serves as strong motivation for the provision of Inset (Brown, 1990); Ruddock (1991) and Van Tulder (1991). The strongest motivations for inset, therefore focuses once again on the teacher as an agent of change, and very little emphasis is given to innovations/resources to assist the teacher to implement change in their classrooms (Fullan, 1992). With the justification given for Inset one now has to look at the kind of Inset that is necessary at a time of curriculum change.

5.4.1 Models and Approaches to Inset

Showers (1988), Harlen (1992) and Van Tulder (1991) distinguish several features of what might constitute 'effective' Inset. According to Lally (1992) an effective Inset model is one in which outcomes are directly related to the perceived needs of the participants. Van Tulder (1991) concurs by suggesting that effective Inset must meet the identified needs and practical problems of teachers and the way in which the teachers function in the school as an organization. As part of the needs assessment, other studies support consultation with entire school communities to ensure relevance, appropriateness and the implementation of Inset programmes (Daresh, 1987; Esu, 1991 and Hutson, 1981).

Two models have been identified in South Africa:

- i. *Individually based Inset*, characterized by individual teachers from different schools being grouped together and focused on individual teacher concerns and needs and
- ii. *School-focused Participatory Inset*, takes account of the school's educational priorities and focuses on matters that require the coordinated efforts of several teachers from the same school to make a bigger impact within their specific school setting (Van Tylder, 1991).

The surveyed literature overwhelmingly supports school focused participatory Inset (Esu 1991, Mortimore, 1989, Simon, 1991 and Van Tulder, 1991). The school focused

participatory Inset model includes follow up school-based support for teachers as a vital component of their teacher development programmes. This follow up school based support addresses and balances the needs of the curriculum together with the classroom needs of the teachers which is in turn assessed on the degree of the implementation of skills and knowledge acquired during the Inset programmes is generally perceived as being a more appropriate and effective model.

Further justification for using school based participatory inset is provided by both van Tulder (1991) and Joyce and Showers (1988) who set the following as a rationale for using a school based participatory inset programme. They suggest that participatory school-based in-service programmes can succeed in improving teachers' subject and pedagogic knowledge and can be slightly more successful in improving teaching skills. Furthermore, such programmes include teachers as planners and tend to be more frequently successful than those without teachers' assistance. These programmes tend to provide modeled demonstrations, supervised trials and feedback thereby supporting teachers and not leaving them totally on their own. These programmes tend to view interventions as part of a long-term systematic staff development plan than as a single short-term programme. Finally, with such a model teachers' goals are acknowledged and addressed in such programmes because their input is critical and the context in which they implement is understood and considered in the programme development.

There also seems to be general agreement that effective inset must impact on more than just the individual teacher. The assumption is that a collective body of teachers from a school can and should work together to effectively implement changed classroom practices. Once again, the emphasis is on the teacher as the agent of change. According to Guthrie (1987:60) 'teachers are not generally irrational opponents of change but they rationally weigh alternatives according to their classroom realities'.

Primarily within such models, it would seem that two established approaches to inset delivery are prevalent according to the literature of Flanagan (1991); Reeves (1993); Schofield (1994) and Hofmeyr and Hall (1996). These two models include inset programmes that focuses on

academic and theoretical content approaches on the one hand as well as inset that focus on school competencies.

Academic and theoretical inset models are usually departmentally accredited courses that are primarily offered by Colleges of Education, Technikons and Universities for unqualified and under qualified teachers to upgrade their qualifications. They usually focus on academic and theoretical content and are generally content or syllabus based (Hofmeyr and Pavlich, 1987). In South Africa, the majority of teachers involved in such courses are black teachers who were upgrading their professional qualifications to a matric qualification and then a matric plus a three- year teacher training qualification (Hofmeyr and Hall, 1996). Teachers were motivated to upgrade their qualifications through these courses because they would get salary recognition for their certificates (Reeves, 1993; Hofmeyr and Hall, 1996).

School Competence Inset model courses, on the other hand, focus primarily on developing school competencies and are aimed at impacting on the professional development of teachers. These courses may include management training assisting teachers to improve their subject knowledge and or change their classroom practices. Most of these courses are not accredited and are provided by non-governmental organisations (NGO's) that are funded by the private or business sector or overseas donor agencies (Hofmeyr and Pavlich, 1987). The majority of these courses was subject-based and consist of workshops for individual teachers and do not entail any or sustained classroom follow up support (Jaff, 1996).

A third trend is the initiative by Education Departments who have recently in the last three to five years developed their own Inset programmes. Generally these programmes focus on Inset for the implementation of curriculum change and not necessarily in meeting the needs of teachers. This model of Inset has come under increasing scrutiny and critique, because, if Inset is to succeed, the focus needs to be on policy requirements as well as the teachers classroom needs who are the implementers of change processes (SAIDE, 1997).

The need is now for more holistic approaches that consider the context specific needs of teachers and schools, as well as go some way to addressing policy requirements. Approaches,

it would seem, need to entail more sustained interaction with teachers and adopt a more participatory and democratic approach.

Most appropriate, it seems, would be a school focused Inset participatory model because, within such a model, teachers actively engage and might be able, with some practice and support, to select and employ appropriate practices within their particular school contexts (Flanagan and Sayed, 1992). This is because the participatory model is based on the constructivist theory of knowledge where the view is that knowledge is actively and personally constructed by learners rather than 'given' to them. What this means is that with the participatory model, learners are no longer seen as passive recipients of 'reified' knowledge but as active participants who make their own meaning through collaboration with their peers or 'others more knowable than themselves' as well as through their own contribution (Wells, 1992). The same assumption is made about teachers' engagement.

In the participatory Inset model the role of the teacher in the classroom is perhaps the most dramatic feature and the one with the greatest implication for this preferred model of Inset at a time of curriculum change. According to the participatory model, the role of the teacher is not to dominate discussion but to facilitate new learning by providing learners with opportunities for active participation in the classroom. The participatory model values more progressive, democratic teaching practices and encourages learner-centred, problem-solving, enquiry-based, interactive and collaborative learning and teaching (Davidoff and van den Berg 1990). Teachers themselves are seen as 'active participants, who, through continually and critically reflecting on their practice, can take responsibility for changing their practice themselves'. (Flanagan, 1991:26).

Another assumption of the participatory transformative model is that changes in teachers' self-understanding and conception of cognition are necessary if teachers are to take responsibility for transforming teaching and learning practices and bringing about improvement in the quality of teaching and learning (Flanagan, 1991). A further assumption is that it is teachers' ability to reflect critically and act appropriately within a particular context that brings about improvement in the quality of teaching and learning.

According to Joyce and Showers (1988) all teacher trainers should assess teachers' needs together with the current curriculum needs and match them to the services that they are able to provide to teachers within the context of current classroom realities. In-service providers should therefore be careful about engaging teachers with radical transformation strategies over the preferred evolutionary and participatory Inset models as suggested by Hofmeyr and Hall (1996).

This research hopes to emphasize how the engagement with a Participatory Inset model by teachers can, to some extent, enable and change some classroom practices to be implemented. What this implies is that In-service providers need to be sensitive to and acknowledge why teachers do what they do in their classrooms, before, during and after developmental Inset teacher training sessions, rather than focusing only on their own objectives without considering the needs of teachers.

5.5 A RATIONALE FOR USING A DEVELOPMENTAL FIRST ORDER CHANGE INNOVATION

According to Lewin and Stuart (1986), Young (1985), Werdelin (1979) and Cuban (1988), first order changes are those things that improve the effectiveness and efficiency of what is currently being done, without disturbing the basic organizational features and without substantially altering the way children and adults perform their roles (Cuban, 1988). First order changes also have a greater potential to succeed if they are developed and adapted to fit into and add value to what is presently happening in the classroom (Atkin, 1993).

Innovations must never be seen as ends in themselves to bring about change (Cuban 1988). According to Fullan and Stiegelbauer (1991), educators firstly have to engage with an innovation in order to make sense of it so as to decide on its effectiveness and relevance to assist them to bring about changes in their classroom practice. Furthermore, they should also be regularly supported at their schools so that they are able to adapt innovations and then use them as well as possible to suit their classroom and learners' realities.

In order to engage educators in the above process, it must be noted that, educators need to have regular access to a variety of relevant and practical available examples of innovations so

that they can choose which they need according to their specific classroom needs (Whiteside, 1998).

Besides having access to examples of innovations, educators must also be equipped to critique available innovations, so as to decide whether or not to use them because, innovations are still a means by which some people organise and control the lives of other people and their children according to conceptions as to what is preferable (Cuban, 1988). According to Whiteside (1998) the reason for this is that even good ideas may represent poor investments on a large scale if the ideas have not been well developed with educators or if the resources to support implementation are unavailable.

The worth, therefore, of particular innovations must also not be taken for granted, because one cannot always be sure of the purpose, possibilities of implementation, or the actual outcomes of using proposed innovations to assist teachers to change their classroom practices (Kahn, 1996). The challenge facing South Africa is not simply to master the implementation of a single innovation but to engage with a variety of workable, relevant and practical classroom innovations when trying to implement and effect changed classroom practice (Kahn, 1996).

All stakeholders in teacher training and development therefore have the responsibility to train, equip and support all teachers for sustainable change to be effected in the classroom as espoused in C2005. Another responsibility is to embark on research that actively involves teachers to investigate and evaluate the training and services that are being provided for them (Rogan, 1999). According to Jansen (1999), In-service providers should now, more than ever, be providing relevant training, relevant resources and relevant support that can be practically implemented to make classrooms better places and not just provide services just to stay in business, which educators do not even need.

It would seem that the literature surveyed for this research focused much more on the processes of change when dealing with teacher training. Very little focused attention is given to 'what' the teacher could possibly use in the classroom to enable the teacher to bring about classroom practice changes or it is left out of focus or in the background (Vries, 1997; Pennington, 1996; Tobin, 1994; Johnson, 1993 and Gomez, 1992).

The consequence of this leads to what Beeby (1984) refers to as the ‘missing gaps’, echoed by Davidoff (1997) as teachers finding themselves, teaching in the ‘gap’. The gap being, the missing components that makes the implementation of policy so difficult for teachers. Both Beeby (1984) and Davidoff (1997) suggest that teachers need something ‘tangible’ that is practical, manageable and contingent with the realities of their classroom.

As all journeys start with small steps, this research therefore aimed to offer a modest step in the huge journey of implementing C2005. It will not claim to have made radical classroom changes or unproblematic possible teaching transformation. Instead, it wants to show that a journey of change is possible by taking small calculated supportive steps underpinned by sound pedagogical and inset criteria while at the same time working within the policy document frameworks and, most importantly, responding to the classroom needs of teachers.

6 RESEARCH DESIGN

This study set out to:

1. examine and reflect on the processes of a developmental participatory in-service model as a possible vehicle for changed classroom practices at a time of curriculum change – the ‘process’, and
2. examine and reflect on the self-perceived impact of the FOCI as a practical, concrete and vital teaching, learning and assessment resource that could be the medium to both assist and enable teachers to the possibilities of changed classroom practices – the ‘product’.

6.1 METHODOLOGY

The nature of the research influenced the design and methodology. This research is located within a qualitative research paradigm. To this end, qualitative participatory action research was chosen to primarily inform and improve my own practice as an Inset fieldworker. To enable the research teachers to have the ultimate say regarding both the developmental ‘process and product’, (a vital component in qualitative participatory teacher development research, according to Fullan 1993) regarding their professional development. Allowing teachers to participate in this manner was important for “buy in”.

Qualitative methodologies are especially suited to educational inquiries, particularly when the purpose of the enquiry is understanding rather than proof (Hopkins 1989). Hopkins (1989) emphasizes that qualitative enquiries are often more concerned with generating hypotheses about complex social situations rather than testing them. According to Mouton (1998) participatory qualitative research is usually employed when working with disadvantaged communities, as such communities are underprivileged and have been previously oppressed. Their disadvantaged and in most cases, peripheral position in society is seen as an important condition to engage them with participatory processes. Their previous disacknowledgement and disempowerment is therefore a legitimate reason to engage them in participatory practices to attempt to empower them. Many researchers stress the value and appropriateness of engaging in qualitative methods when 'the phenomena to be studied are complex human and organizational interactions and therefore not easily translatable into numbers' (Hopkins 1989).

Wilson (1987) and Fullan (1993) maintain that 'qualitative research is as much a product of research as it is a predetermined construct'.

However, questions abound relating to the reliability and validity of qualitative participatory research sometimes also referred to as 'community based action research' and their generalized claims (Fullan, 1993). A common defensive argument from Simons (1989) is that research generated in this way is significant in their own right and of intrinsic interest. According to Simons (1989:60) this is because 'qualitative participatory research recognises the complexity and 'embeddedness' of the current social reality that provides descriptive data sufficiently rich for reinterpretation or generalizations of a group of individuals that belong to a much larger population as they generate research data in a much more accessible form'.

It is within this broad understanding of qualitative research, that this study therefore focused on using a developmental participatory action research model to examine the inset model as well as impact of the participatory Inset model while using a first order change innovation for teacher training and development at a time of curriculum change. According to Cohen 'the purpose of qualitative participatory research is to probe individuals deeply and to analyse

them intensively with a view to establishing generalisations about the wider population to which the individual belongs'(1980:99).

Pivotal to this research investigation and according to Lewin (1986:90) 'if meaningful social theories and practices are to be developed, they must address problems that are grounded in the life circumstances of the inquirers'. Therefore qualitative participatory action research practitioners must always strive to be 'open-minded' about what counts as data and entails keeping records of the research process in a variety of ways like such as diaries, photographs or recordings "to provide a basis for reflection" and as a means of documenting observations about what has been learnt about practices as well as about the research process itself (Kemmis, 1996). According to him the goal of qualitative participatory action research is to find 'practical' solutions to current educational problems that are grounded in current classroom realities.

Qualitative, participatory research is also a collaborative process that involves all the research participants in group reflections as well as critical self-reflection on their practice (Wallace, 1987). Qualitative participatory research can also be seen as a strategy, for bringing about improvements in practices as well as the construction of critical theory and practice through this reflection process (Kemmis, 1996: 44). 'Although outside facilitators can play a vital role by acting as a mediator who helps the group to reflect without distortion, ultimately it is the participants who should own the enquiry and it is the understanding of the participants which should be seen as crucial in shaping the required changes'.

For the above reasons the methodology for this research therefore led to the identification and the design of a combination of appropriate and constructive research techniques suited to the constructivist paradigm that underlines the process of qualitative participatory action research (Kemmis, 1996).

6.2 THE RESEARCHER

I, am an educational inset development practitioner with the PSP have five years teacher training and classroom support experience in both urban and rural areas as well as ten years classroom teaching experience. What this meant according to Denzin and Lincoln, (1998:3)

was that within this research process, I operated as a 'bricoleur or a change agent' within the context of participatory research. I was therefore the initiator and implementor of the participatory processes as well as the researcher. According to Mouton, (1998) initiatives of participatory research are often taken up by 'educated activists' that is, university graduates as in my case. It is therefore assumed that the researcher is a specialist who comes from outside the community where the participatory research is to be initiated to address certain problems and even find solutions. According to Fullan (1993), change agents cannot always offer solutions to the complex educational problems but seek rather through their participatory processes to offer suggestions. These suggestions account for the realities of the educational situations that teachers find themselves and seek to create a discussion and acknowledgement of the participants of the enquiry.

The key consideration of this dual function is how it might have the potential to compromise the research if careful attention is not paid to each role. Carefully selecting data collection tools and being constantly aware of the dualism formed a critical component of research process.

6.3 SITE AND SAMPLE

Twenty research teachers from five participating schools constituted my research sample. The schools were drawn from urban ex- Department of Education and Training schools on the Cape Flats and rural schools from the Cape West Coast. The participating schools were not pre-selected using any specified criteria except for their regular and committed workshop attendance and their willing and active workshop participation. All the grade 6 natural sciences teachers from these urban and rural schools were invited to a meeting and presented with the research process. I was insistent that I could only manage to work with 20 interested volunteer teachers who were given a month within which to decide on their participation. The first 20 respondents out of a total of 36 respondents therefore finally comprised my research sample. While this process has its own difficulties (volunteering teachers being but one challenge that could bias the response) it was one of the practical ways available to select respondents.

6.4 NEGOTIATING ACCESS

Once the research teachers had been identified, I set up meetings with both the research teachers and their respective principals at their schools. This was done to ensure that both the school and the research teachers understood fully what was expected from them and that they were comfortable with the conditions of participation. This entailed attending five two-hour workshop sessions, being provided with all the practical resources for classroom implementation, two follow up classroom support sessions, one classroom observation session and two semi-structured interviews. A total time framework of six months for the data collection was negotiated which would include the workshop attendance, follow up school support sessions, interview sessions as well as the classroom observation session. During the first information visit I made it very clear that neither the teachers nor the schools name would be used or any reference of possible identification at any stage within the research process. Also, both the teachers and the schools were assured of access at any time to any of the data collected at their respective schools.

6.5 METHODS OF DATA COLLECTION

Due to the open and reflective nature of qualitative participatory action research it was appropriate to employ data collecting tools that would enable the teachers to openly reflect on the impact of both the Participatory Inset model as well as the FOCI. It was therefore essential that the methods employed for data collection were flexible and varied to reflect a small example of what was happening in reality in some primary schools.

To this end five methods of data collection were used. These included, evaluation forms from the five participatory workshop sessions, issues raised during the informal discussions captured in my reflective research journal during the follow up classroom support sessions, two semi-structured interviews and the shared classroom observation schedule. Each of these is discussed below.

6.5.1 Five 2-hour Workshop Sessions

During these five, two-hour workshop sessions teachers were engaged with a school focused participatory inset model that sought to actively involve and engage all the grade 6 science educators of each school with an example of a developmental first order change innovation

(FOCI). The main purpose of the workshop sessions was to expose, simulate and to practically engage the teachers with a carefully co-developed example of OBE planning, teaching, learning and assessment strategies that they could implement in their classrooms as required from the Natural Science curriculum.

During these sessions, teachers were firstly engaged in participatory planning and assessment processes where the teachers themselves developed a work scheme containing OBE teacher and learner tasks with their continuous assessment opportunities. Secondly, the teachers then logically for conceptual development further developed their work schemes with the lessons, activities and assessment opportunities from the FOCI. These lessons and activities with their assessment opportunities were then engaged with by the teachers in a simulated classroom environment. During and after each session opportunities were created for teachers to raise questions and concerns through interactive reflective discussions. Teachers were also given the opportunity to give feedback and to make suggestions and changes to any of the lessons, activities and assessment tasks that they were expected to implement in their classrooms. At the completion of the five workshop sessions and after all the agreed upon changes were made, teachers were provided with a set of learning programmes with extra teaching and learning resources for classroom implementation. Lastly, teachers were then asked to reflect on all the aspects and processes that they had engaged with during the participatory workshop sessions by completing workshop evaluation forms. All the workshop materials, reflections, comments were recorded in my reflective journal.

6.5.2 Workshop Evaluation Forms

At the end of the five workshop sessions, the educators were asked to comment on how useful the structure, content and the methodology of the participatory inset model was. They were asked to comment on whether the activities in the grade six learning programmes on matter and materials were relevant for their classroom use. Included in the evaluation were questions regarding the planning process, assessment strategies, variety of classroom teaching methodologies and content provided and how potentially useful they might be.

6.5.3 Negotiated Follow Up Classroom Support Sessions

After the workshop sessions and in preparation for the classroom implementation of the FOCI and the observation sessions, each teacher negotiated to have two one hour follow up classroom support sessions. During these classroom support sessions teachers had the opportunity to discuss any problems they were experiencing in attempting to implement the developmental FOCI in their classrooms. This also gave them the chance to reflect on how they were implementing the FOCI thus far and whether they would need further support sessions before the classroom observation sessions.

The main purpose of these follow up sessions was to motivate and encourage teachers to attempt the implementation of the FOCI in their classrooms as required from the Natural Science curriculum policy documents. At the outset, it was difficult to comprehensively capture all the teachers' reflective feedback during the follow up classroom sessions. But as the research process progressed the teachers' reflective feedback was becoming similar which enabled me to start categorizing their emergent current reflections.

All the reflective feedback of the follow up classroom sessions was captured as best as was possible in a research journal. While the journal entry procedures of these follow up classroom support sessions possibly missed some points that the educators raised, it did however allow for immediate attention to be given to the educators' issues, questions and concerns.

It also allowed for immediate additions and alterations to be made to the developmental FOCI as suggested by the teachers. These support sessions was then followed by a structured classroom visit, where the teacher taught one lesson from the FOCI while being observed by the researcher and using the shared criteria observation schedule.

6.5.4 Negotiated educator observation sessions

A negotiated Shared Criteria Observation Schedule (SCOS) was developed with all the research educators in two, two-hour cluster sessions after the five workshop sessions and follow up support sessions. A few available observation schedules was shared with the research educators and we together developed one that contained common elements that

everyone felt comfortable with to be used during the classroom observation sessions. Negotiating the use of a SCOS was in order to ensure that the research educators were not intimidated while being observed when they were implementing one lesson from the FOCI. Each research educator therefore knew exactly what criteria was being used while they were being observed after having had the opportunity of classroom support sessions before being observed. This was done to build up educator confidence and so that the learners in the classrooms where I was observing the teachers were not unfamiliar with the me.

Before using the observation schedule, it was made clear to each of the research educators that the researcher was their critical friend coming into their classroom to support and develop their teaching, learning and assessment strategies while using the FOCI and not to criticize or inspect them. The main purpose of these observation sessions using the SCOS with guiding questions was to see to what extent the teachers were in fact attempting to implement the planning, teaching, learning and assessment strategies.

6.5.5 Two semi-structured interviews

The interviews were used as a secondary, but complementary, tool to validate the information collected from the educator classroom support sessions and the teacher observation schedule sessions. The interviews gave the researcher the opportunity to see whether the teachers were, 'walking their talk and talking their walk so to speak'. Together with the researcher all the teachers therefore negotiated when and how they wanted to be supported in their classrooms in order to start implementing the FOCI. The first interview was conducted before the classroom observation session and the second interview after the classroom observation schedule.

During both interviews structured questions was used to enquire how the teachers were implementing the proposed Natural Science planning process, teaching, learning and assessment strategies that was dealt with during the five two hour participatory workshop sessions. These interviews were done to get a sense of what the teachers' were attempting to do in their classrooms. It also gave the teachers' the opportunity to explain 'why they were doing things the way they did, in their classrooms'.

During the actual semi-structured interviews, it became apparent that I was not going to be able to transcribe all the teachers' responses but that it was easier to make entries as best as possible into the research journal while the educators were responding. I therefore relied on the journal entries for all the informal conversations and verbatim reports of these interviews as a form of a richer and a more continuous feedback resource.

These interviews which were face to face, lasted between 30 – 40 minutes with each educator, in their classrooms during their administration period when their learners were not with them. During these interviews I tried to create, as far as possible, an atmosphere that enabled the educators to speak frankly and also to ask their own questions and raise their own issues and concerns. The educators were therefore very relaxed and open during these interviews due to the professional and supportive relationship that was evolving during the research process.

6.5.6 Reflective Research Journal

Due to a tight and rigorous working schedule and not being able to transcribe all the interview data, it was necessary to keep a reflective research journal as it was the most appropriate and expedient means to keep a record of all the continuous feedback as the research process unfolded. The research journal also became necessary to record all the discussions during and after each classroom support session with each of the research teachers. It proved most useful to refer back to when revisiting teachers' classrooms to remind myself, and the teachers how to proceed with the next step in the investigation process for each teacher. The research teachers and I also used the reflective journal reports to change any misrepresentations I might have made so as to stay true to both the acknowledgement of the teachers' vital participation in this research process and the participatory nature of this qualitative enquiry.

The above methods of data collection proved to be enormously fruitful in developing strategies to analyse and at the same time identify the emerging positive developmental educational impacts of the participatory Inset model while using the FOCL.

6.6 PROCESS OF DATA ANALYSIS

A qualitative, thematic approach was employed in the data analysis and interpretation of the data collected. The analytic approach can be understood to have four distinct generic

categories, namely, immersion in the data and initial generation of categories, validation of categories, organization and interpretation of categories and the presentation of the categories. Focus was placed on noting the emergent common positive developmental educational patterns or themes that could be used as the research descriptors to report on the outcomes of this research.

The process of pattern or theme analysis was therefore predominantly used with regards to; what were the predominant emerging patterns or themes, what was the significance of the pattern or theme, what assumptions, knowledge, skills or attitudes was the pattern or theme showing, what was the effects of the pattern or theme and very importantly to what extent did the pattern or theme correspond with the intentions of this research. This was to establish a really informed sense from the research teachers about some of the realities of the wider population to which these research teachers belonged, which the PSP was involved with in order to provide the best possible service in line with both policy requirements as well as the needs of teachers.

Alternative and negative responses were also engaged with. Where patterns or themes were identified, consideration was given to responses that did not fit within these patterns or themes. This increased validity as well as the understanding of the emergent patterns and themes. During the analysis, I heeded Jarvis (1999) who highlights the importance for researchers to realize that the data collected, may mirror reality, but they are themselves constructions. They should therefore be treated as part of the research process, to be interpreted and understood at the appropriate level of what is being inquired rather than as factual records of evidence.

6.7 LIMITATIONS OF THIS STUDY

The research process might have been compromised to some extent due to my dual role as both the researcher as well as the inset provider. The research teachers in the urban schools already had a good professional relationship with the PSP, but not with me as their field worker, so they already had a good understanding about the working culture of the PSP and could have therefore been more willing to co-operate.

This research was conducted in only previously disadvantaged black schools and thereby there could have been a sense that participation would bring both the teachers and the schools involved much needed training, follow up support and resources therefore teachers might have gone all out to please. Due to the limited time that was spent on classroom observation, teachers might have also just done their best on the day of their classroom observation. The interviews were also only limited to the research teachers and not to the rest of the staff in order for me to verify whether indeed they were working as the data suggested. The fact that the teachers volunteered already predisposed them to the challenges of change and also that they had some prior inset input prior to this intervention.

The model has some drawbacks with regards to its implementation on a larger scale to address the thousands of teachers that have to be trained to implement the requirements of the new curriculum. On a small scale the participatory model appears to be a thorough inset strategy, but on a larger scale this model is labour intensive and very time consuming. It requires a full time facilitator to work very closely with the entire natural sciences team from each school over an unlimited period of time to build up trusting and collaborative professional relationships. Due to the labour intensivity and the time needed to thoroughly engage teachers in such an initiative, it becomes a very costly inset strategy, when so many schools need to be trained to implement the new curriculum, but it could be a worthwhile endeavour to address with a carefully selected smaller group of schools who find themselves really struggling with the implementation of the new curriculum.

7 RESULTS

The analysis of the data was completed in two parts that are not mutually exclusive. The first part sought to examine the impact of the ‘process’, that is, the participatory Inset. The second part sought to examine the impact of the ‘product’, namely the FOCI, in assisting in the implementation of changed classroom practice at a time of curriculum change.

In order to examine the above, analytical strategies in line with the participatory research process were necessary to measure the impact of both the participatory Inset (process) and the FOCI (the product). In analyzing the collected data, the emphasis was more grounded in the search for ‘WHAT’ is now most needed and suited for teacher training and development at a

time of curriculum change and 'HOW' the teachers were going to implement the expected changes in their classrooms. The examination of the process and the product also had to address the expressed needs of the teachers who, from the outset of this research, wanted something practical to implement in their classrooms. This need to support teachers is echoed by Cuban (1988) who suggests, that first order change innovations succeed in assisting teachers to start making changes to their classroom practice because they add value and support than radically disrupt what teachers' and children do everyday in their classrooms.

Given the complexity and doubts around the validity of qualitative participatory action research, it would have been very easy but also very naïve to use analytical strategies which solely depended upon determining the effectiveness of the process and the product. According to Kemmis and Robottom (1981:151) "such evaluation designs tend to be insensitive to both the evolution of the innovation, and to the qualitative contribution that participants in the evaluation have to offer".

To date, research alerts us that observable and measurable generalised outcomes remain the most common test of effectiveness but they don't always seem to suit the needs of teachers' but rather the needs of the developers of the innovations (Cuban, 1988). Therefore, I was led away from using generalised outcomes against which to measure the impact of the participatory Inset process and product. Rather, I read the data and used the teachers' responses to develop self-emerging themes and categories that would enable me to understand the extent in which the participatory model was effective as well as to examine the impact of the FOCI in enabling a change in classroom practice. Because much educational research is evaluated in terms of its significance to the producers rather than in terms of its usefulness to consumers, this research aimed to focus on the latter, as it seemed necessary to strive to find meaning in assessing specific innovations and be very suspicious of those that make no sense to teachers who are, after all, the implementers (Shaker, 1990).

Before presenting the results it is very important to bear in mind the professional background, teacher training as well as the roles and the expectations of these teachers as was reflected in the literature review. Prior to the implementation of C2005, teachers were given a set curriculum and were expected to implement it in a certain way. This resulted in individualistic

professionals with set teaching and knowledge systems. There were few structures in place which offered either professional or classroom support. Teachers during this research were therefore very apprehensive about being observed or questioned about what they were doing in their classrooms. Negotiation of access and especially the development of trust amongst teachers was integral to this research and quite easy for me as I had already been working with these teachers over a two year period.

In the first part of the analysis, I examine the use of the participatory Inset model of training. As already described in the research methodology while using a FOCI, I sought to examine the appropriateness of such a model in assisting teachers to make possible classroom practice changes in line with the requirements of the new curriculum.

The second part of the analysis examined how teachers went about implementing the FOCI in their classroom and whether together with the participatory Inset model it did indeed serve as a catalyst for change.

7.1 RESULTS: PART ONE

What follows are the pertinent emerging research descriptors of the professional shifts made by the research teachers in respect of the impact of the participatory Inset model through the use of a FOCI. Six broad themes emerged from the data and these include the following, *the development of collaborative and collegial professional relationships; renewed sense of purpose and pride, teachers starting to take professional risks, assimilation of learnings into the school structures, teachers' involvement in curriculum development and professional teacher support to effect improved classroom practice.*

7.1.1 Collegiality and Collaboration

Collegiality and collaboration implies some degree of interactive and voluntary professional behaviour leading to an expanded network of people working towards common solutions of their shared or similar problems. Collegiality and collaboration therefore suggests a will to share on a regular basis for sustainable classroom practices (Fullan, 1993).

The results suggests that teachers were shifting their individualistic professional identities to a

more open, collegial and collaborative relationship which was evident on three levels, namely,
with in individual schools, between schools and between the schools and the service providers. Each of these categories is examined below.

Collegiality and collaboration at individual school level

Emerging collaborative relationships was evident in the behaviour between teachers in respect of both their personal and professional approach to planning their Natural Science curriculum. It would seem that teachers at the participating school experienced a change in the way in which they worked together within and between grades. Teacher behaviour seemed to be more professional towards each other as is suggested by these teachers comments, 'Because we now know what to do and what is expected of us, we behave much more professionally towards each other. Another teacher commented by saying, 'do you know how we used to fall over our feet at the beginning of the term and argue with each other that we just ended up doing our own thing in each class, but now all we do is get together from grade 4-7 with our mind maps of each of the science themes and then we decide what content each grade will cover'.

There also seemed to be a renewed professional respect towards each other as these comments suggests, 'Now that we have something practical to work from and with, we are sort of forced to in a nice way to do our planning together and we now gel much better as a staff and some of us are even talking to each other after a very long time as we just used to function on our own and doing our own thing in our classrooms and we now able to not only share ideas but also one another's resources and it is just so lekker and less stressful to work like this'.

Collaboration and collegiality was also evident in the changed nature of how teachers were going about their planning processes as planning seemed to improve within and between grades. There seemed to be a better sense of purpose, projection and collaborative planning. This is confirmed by the teachers' comments, for example, 'Because I am new at the school I just fell in line with everyone else and did my own thing but now after the workshops even the principal sits with us during our planning sessions which we do regularly per term which was a staff decision. Also, a principal stated that, 'Speaking from the perspective as the

principal who now also has to teach, I now fully understand what my teachers have to do in order to implement the new curriculum and that is why it is so important that we have regular staff development sessions for us to plan together so that we can implement more effectively and efficiently and we are now also using the planning and assessment science processes in our other learning areas as well’.

Collegiality and collaboration between schools

The participatory Inset model seemed to promote and encourage this inter-school collaboration. Teachers, for example, suggested that they ‘showed their planning files to the curriculum advisor as well as to our circuit manager and they asked if my staff would like to share our learning experiences with our neighboring school’. It would seem that teachers were not only willing to collaborate but also suggest to other teachers where they could get support as is evidenced in these comments, ‘I was urged to come to the workshops while on the soccer field discussing my assessment problems with a principal of another school and he asked me why I did not go to the PSP and he then shook his head and laughed at me, that’s why I came to the workshops and now I also encourage other schools to come and we can now show other schools how to go about planning their curriculum and believe me we feel very proud that we can now show other schools how to go about planning their curriculum’.

Collegiality and collaboration between schools and the service provider

Another level of collegiality and collaboration was found between the schools and the service provider. It would seem that a renewed level of mutual respect and trust was built. Teachers also seemed to consider the participatory Inset process a worthwhile endeavour and viewed it as an opportunity to reflect on their classroom teaching practice as is evidenced in the following teachers comments that, ‘I was suspicious of you NGO’s but after the workshops, follow up support sessions at school and you helping me in my classroom, I gave in, started trusting you and I tried the learning programme in my class. But the way in which you conducted the workshops we felt that you respected what we also had to offer during the workshop sessions and that kept us interested as I had the theory in my head but the workshops made it more practical and that’s what kept us coming to the workshops’.

It therefore seemed that the collaborative and open relationships that had been built up during the research process through the use of the participatory Inset model had enabled teachers to transfer such collaboration to their respective schools. Teachers seemed to view the participatory Inset process as a worthwhile endeavour because it served as an enabler at two levels, namely between teachers themselves and between the teachers and the service provider. This collegiality also set the foundation for the teacher observations sessions later into the research process. It also became an essential element of the participatory research process of maintaining a continual discussion between the researcher and the teachers to ensure that everyone's views were heard, acknowledged and respected.

The teachers' responses also demonstrates that the collegial and collaborative relationships that was being developed enabled teachers to be both capable and confident enough to reflect and critique the process as is evident in all their above responses and about the product as will be dealt with in part two.

7.1.2 Renewed sense of purpose and pride

With the implementation of C2005, all too often, teachers are finding themselves in situations where they feel they are losing confidence, a sense of purpose, while at the same time experiencing increasing role expansion and role diffuseness with no sense of where their commitments and responsibilities should end. In a situation like this, professional collaboration and purpose can help them to best direct their resources, conserve their much needed energy, and help them sift their way through the exhaustive curriculum policy requirements and demands to effectively and efficiently implement policy in their classrooms. In this study, the participatory Inset model seemed to enable teachers to develop a renewed sense of purpose and pride. This new sense of confidence and independence seemed to result from the manner in which teachers had been treated, supported and encouraged during the participatory workshop sessions. This renewed sense of purpose and pride in their teaching again became evident as the teachers seemed to better understand and thereby redefine their roles and expectations as they knew exactly what to do and also had something from which to work, as evidenced in the following teachers' responses 'We now know that all four themes have to be covered in each grade, with each grade only covering certain content for conceptual development which makes so much more sense and now our teaching, learning

and assessment strategies are much more practical and purposeful'. Also that, 'The mind maps simplify the planning process so that we can decide on the suitability of the content for the level of the learners in our particular grade and teachers can then decide what is suitable for each grade and develop their learning programmes accordingly'. Teachers also acknowledged feeling guided in that, 'The learning programmes does not only guide you through a variety of teaching strategies but it also gives you a variety of practical assessment strategies also that, now that we have something tangible that makes sense, it is again ok for us to work together and not to feel ashamed to ask each other'. This sense of purpose also seemed to be creating a sense of pride as this teacher suggests, 'For the first time my voice is being heard at school as I am able to share what I have learnt at the workshops and my colleagues treat me with more respect. Another teacher commented that, 'I no longer feel intimidated to teach science nor do I feel stupid or intimidated as a professional about all the changes in the curriculum and each teacher now knows how far they have to go in each grade so that we no longer blame each other for not having done the work in the previous year'.

This sense of pride also developed confidence and assumed independence regarding their classroom teaching practice as is evident in the following teachers responses: 'These learning programmes has also helped us to develop our own examples of learning programmes in other learning areas as well as it is not only useful but so important to know what you are going to teach before the term starts. Another teacher commented that' this planning process has also developed a new found respect for each other as before it was so easy to just accuse our colleagues of being lazy and not knowing that they had no idea of what they had to do but now we can address those fears in a more professional manner'. The same teacher also commented that she feels very chuffed that she can now lead her grade group with confidence and they have more respect for me as I know what I am talking about as we now know where the gaps are and now we make sure that all the requirements of each theme is covered thoroughly. While another suggested that 'we shared our plans with the departmental officials and they were very pleased with how we had done our planning, and now we will be sharing this with another school. Confidence also assured that teachers did not blame each other for shortcomings, as this teacher suggested ' So now when the term starts, we know exactly what to do and how to do it and no more falling over our feet and blaming each other and this also means less stress as we have all the resources to implement our curriculum and assessment

plans and it is always nice to know that we are on the right track implementing what the policy requires from us’.

It therefore seemed that this renewed sense of purpose and pride had been developed, encouraged and nurtured during the research process through the teachers having actively engaged with the participatory inset model.

7.1.3 Professional risk taking

The teachers had to take the risk of trying new teaching, learning and assessment strategies and resources against their well-rehearsed and established classroom practices together with their own teaching belief systems. It is documented that, the benefits of inset seldom become integrated into classroom practice, as individual workshop participants return to schools of unenthusiastic and uncomprehending colleagues who have not shared their learnings. These new learnings therefore fall by the way as teachers’ can not always share their learnings with others (Cuban, 1988).

In this study, however, teachers seemed to be taking risks as they were starting to experiment with a variety of teaching, learning and assessment strategies and assimilate their learnings into their school structures as was evident during the observation sessions and by the following teachers’ comments, ‘The more I try the more I am getting the hang of it and now I feel less intimidated to teach science, and remember in the workshop how you asked me to do that, ‘en mens was ek bang’, but with your encouragement, I came back and told the staff how I got involved in the workshop’.

Teachers also now seemed more confident to risk talking openly about their classroom teaching practices evidenced in that, ‘Before we used to try and outsmart each other with snazzy looking activities only to find out that they had no substance, but thank god we found our mistakes and now we make sure the snazzy activities also have substance’. This teacher stated that, ‘I always thought that we should organize our assessment like this so as to give each child the best opportunity but we did not know how to structure it as it is done in the learning programmes. But we have decided as a staff that this is how we now want to assess our learners and we are now all trying to implement it in our classrooms’. Another teacher

thought it good when she stated that, 'I was one of those teachers who was very stuck in my tried and tested way of working, but now that I have done the activities myself in the workshop, I feel that I can implement it in my classroom which is going to make my science teaching less stressful and when I get stuck I just refer to my learning programme and the assessment document or I ask my colleague and then together we develop a strategy that we can both use as we teach in the same grade'.

This research task invited experimentation and risk taking in that, firstly, we were challenging entrenched teaching practices and secondly we expected teachers to implement the innovations, knowing, as we did, the constraints operating in these schools meant that we were subjecting them and ourselves to an enormous challenge.

The above responses however, indicate how the teachers became increasingly more willing to experiment and it is also evident that the teachers were therefore attempting to use the participatory Inset model's processes in their own practice. The teachers' experimentation during the investigation may be regarded as risk taking because they were exposing themselves not only to failure but also to the scrutiny of the researcher, their peers and their learners. This experimentation with the participatory Inset model processes demonstrated the commitment and willingness from the teachers to make changes to their classroom practices. That, teachers' were prepared to risk criticism by exposing their grasp and understanding of the participatory Inset model processes is an unusual step for most teachers and can be regarded as remarkable.

7.1.4 Assimilation of the participatory Inset workshop learnings into existing school structures

As described in the research design and methodology, teachers were actively engaged with and given time to interact with the processes of the participatory Inset model that simulated classroom practices during the workshop sessions, engaged in discussions and given follow up classroom support in their attempts to incorporate new ideas into their classroom teaching practice. My main task in this research process was essentially to elicit the impact of the participatory Inset model from the teachers classroom actions during the follow up support and observation sessions and from their interview responses as to whether the participatory

Inset model's processes was indeed assisting and enabling teachers to start implementing the requirements of C2005 in their classrooms, rather than to assess if teachers had unlearned old habits and assimilated new learnings.

But it was very exciting that teachers demonstrated both during the follow up and observation sessions and responded during the interview sessions that the participatory Inset model's processes was indeed starting to help the teachers to make changes to their classroom teaching practice. This became evident in the following responses from the teachers in that they were assimilating their workshop and classroom practices into the existing school structures so as to affect the efficiency of their classroom practices in that, 'I like that I can be flexible and decide how long it will take me to teach and assess the learning programme so that I can pace myself and my learners and also that I can add, take out and rearrange the learning programme so as to suit the context of our school'. Another teacher commented that, 'this process is so practical we have decided to use the same process to plan our other learning areas as well. This useful process needs concentrated time so now we have structured time into our time table so that we have regular planning sessions to get all our learning areas organized in this way'.

Collective efforts were also being made as a staff to assimilate their workshop learnings into the existing school structure and culture as this teacher suggests, 'We have decided as a staff that this is how we want to structure and implement our planning and assessment which is now policy at our school which means that there is now continuity in what we are doing, that is, structured to suit the different grades. Another teacher suggested that, 'processes are now policy at our school which we have shared with the department officials who are very satisfied with the way in which we are now planning and implementing our curriculum and assessment plans'. This teacher stated that, 'Teachers from the other learning areas have asked us to share the process with them and now we are planning all our learning areas in this practical way together with our assessment strategies, which makes life easier at school. Now that we are so organized and for the first time in three years continuous assessment is making sense to us. Another comment was that, 'now that we have all decided to make it policy at school and now that we all know what is expected from us and things are so much easier when everyone knows what has to be done and what is expected from them in each grade'.

One teachers' response that really summed it up was, 'my learners and I are getting used to doing it like this. I don't know if it is me, or these materials, or the learners, but something is different in my class since I started doing things like we did in the workshop. My learners are more spontaneous and they approach these tasks with such enthusiasm. I now feel less intimidated to teach my science lessons. After about the second activity I think learners can work more independently. I don't always have to be so in control, so now I feel less tense'.

Therefore, it would seem, that teachers were assimilating their learnings from the participatory Inset model into their existing school structures so as to encourage and assist their colleagues with the possibilities of changed classroom practices.

During this research process teachers made the effort to incorporate the learnings of the participatory Inset model that could make their classroom teaching more effective and efficient. This meant that the culture of blaming and shaming each other could start to be eradicated and be replaced by the culture of collaboration and meaningful purpose. More teachers seemed to feel encouraged to take risks and assimilate their workshop learnings that could consolidate and energise the institutionalization of changed classroom practices.

7.1.5 Teachers' involvement in curriculum development

As Whitehead (1980) points out, 'teachers are often expected to use project material with little or no experience of how those materials have been developed'. Such teachers, in his opinion, have no real reason to take on any of the project's elements or philosophy. He goes on to point out that researchers have to recognise the crucial role that teachers play in the process of implementing any innovations. Whitehead (1980) further points out that teachers can no longer be considered as just the passive recipients of curriculum packages, but rather that they should be the focus of curriculum development work.

As noted, from the outset of this research and true to the nature of the participatory research, active teacher involvement and consultation during the entire research process was vital. The ultimate goal was always to involve teachers in the development, trialing and the reshaping of the FOCI to be used in the classroom. It would seem that because teachers were constantly

consulted and their existing teaching and knowledge systems acknowledged and drawn upon that they stayed committed to the research process. This meant that as the research process progressed, the researcher was able to take cognizance of the teachers' existing classroom practices and knowledge bases so as not to fundamentally change the role of both the teacher and the learner but to add value to their existing roles which is a fundamental principle of using the participatory Inset model.

The FOCI that was used to engage teachers with the participatory inset model was developed and produced with teachers and it had to resonate with the realities of the classrooms that had limited resources in which they were to be implemented. That teachers are bearers of unique and valuable knowledge derived from their many and varied experiences, expertise and by virtue of the fact of their everyday engagement in their classrooms justifies their involvement in curriculum development was acknowledged and as such teachers felt part of the process suggested in the following responses from the teachers, "I can now use the science process to help me integrate science into my other learning areas which I did not know how to do before and it is now easier for me to build up and sequence the integrated conceptual knowledge from the examples in the learning programmes which I never considered before". Another comment was that, "The workshops, follow up classroom support and the learning programmes helps our science team to now also include our own examples and it helps to refresh and also to build up our own science content knowledge as well as refocus our teaching and assessment strategies. An instructive comment was 'I feel less tense and more comfortable and confident with my learners in the science classroom because I know that my science curriculum is thoroughly planned and thought through. This teachers suggested that 'the team is now very proud to say, that at our school we implement participatory curriculum and assessment strategies which is reflected in our planning files and in our classroom implementation and no longer just talk' While another comment was, 'once we have decided on tasks, to be taught from the learning programme including our own lessons, we then refer to the assessment opportunities and decide from the various assessment strategies the best way to assess the learner tasks to give all the learners the benefit of the doubt'.

It therefore seemed that teacher involvement in curriculum development had been stimulated, encouraged and developed due to the teachers being actively involved, being consulted and being acknowledged.

7.1.6 Professional teacher support

Lastly, it would seem evident that the participatory Inset model that used a FOCI, made the teachers feel supported, which was vital for any possibility of implementation and ultimately to start developing sustained changed classroom practice, or at the very least to have something tangible like the FOCI to use in their classrooms at a time of curriculum change.

This aspect of teacher support is perhaps the one that singles out the impact of the participatory Inset model. Teachers had the opportunity to work through the FOCI during the participatory Inset workshop sessions that acknowledged that teachers were working within different contexts and under different constraints at their respective schools. This is also probably because teachers were encouraged to take their time and also to make the necessary changes as they saw fit while attempting to implement the processes of the participatory Inset model.

What the participatory Inset model ultimately aimed for was for the possible emergence of teachers taking control of their own and their learners, learning to create changes in their classroom practice. Teachers expressed, during their follow up school based sessions, that they felt professionally supported while involved in this research process, and this support enabled them to risk change in their classroom practice, albeit in modest ways. After all, as the literature has stated in previous chapters, change happens with the smallest of steps, as evidenced by the following responses in that, “For the first time as an educator I feel that I am being supported professionally as my classroom needs are being addressed, resourced and supported”.

Another teacher responded that, “I like that I am given suggested and not prescriptive guidance, guidelines and support materials to develop my own teaching, learning and

assessment resources and strategies in a practical classroom manner and I am not left on my own after a workshop to struggle and prepare my own resources with no examples to work from'. Teachers also expressed appreciation for the support as is reflected in these comments, 'You have no idea how worried we were about developing the curriculum requirements and not having a clue about how to start, but now that we have now developed this learning programme with you guys we can at least try it by ourselves but as a team back at school' and, 'It is always nice to know that someone is going to come and help you in your classroom and not judge what you are doing but help you. Other comments included the following, 'I appreciate that I get immediate advice to deal with what I am struggling with, with practical suggestions as this is the first year that I am teaching science, I now know where the gaps are when you helped me with the compilation of my planning and assessment file.

The follow up sessions not only helped us professionally but with the low teaching morale which came with OBE, we now feel that someone is really listening and doing something about our concerns. This teacher stated that, 'the follow up sessions gave us as a staff the first opportunity to really sit down and discuss how to move out of our stagnant ways which was doing us no good and now we feel enthusiastic because we have flexible guidelines and not rigid rules that just do not fit into our school'.

It would seem therefore that the teachers' felt professionally supported after being actively involved and being consulted as well as being provided on-going support through follow-up sessions at schools throughout the participatory Inset model's processes.

7.2. RESULTS: PART TWO

What follows are the pertinent emerging observed research descriptors of the professional shifts made by the research teachers in respect of their classroom practice. Two broad themes emerged from the data, namely, classroom environment and teachers' classroom practice.

7.2.1 Classroom environment

Four categories emerged within this theme, namely, an enabling classroom environment, reflection of learners' work, active engagement of learners and allowing for individuality.

Creating enabling classroom environments

It would seem that while using the FOCI in their classrooms, most of the research teachers were attempting to shift from more traditionally structured classrooms in which teachers were the knowledge bearers who imparted knowledge to learners, to developing a more transparent and democratic classroom environment. This was demonstrated during the classroom observations when it appeared that both the teachers and the learners knew what was expected from each other while they were doing activities, lessons and assessment tasks from the learning programme. Assessment criteria were developed, something new to both the teacher and the learner. In the research journal I also noted some of the teachers commented that before trying these new strategies, only they, the teachers knew, what the class would be doing and the same held for when they did assessment.

From all the classroom observation sessions I noticed that the learners appeared to be working quite spontaneously, an aspect that seemed to boost the teachers' confidence. The observations were complemented with the journal entries of teachers' responses that many of them were now experiencing less tension in their classrooms while using the FOCI. Especially when the weaker learners were also able to cope and could keep up with the lessons and activities that were being used from the learning programme. A teacher's direct comment of the above was that, 'what I have found is that these activities have given my learners so much confidence with their science that it is even helping them use their skills now in their other learning areas which makes my life so much easier in my classroom, so much so that I have stopped shouting in class. From all the classroom observation sessions, it therefore seemed that the teachers' were moving from their well-practiced traditional teaching environments to developing more open and democratic classroom environments while using the FOCI.

Active engagement of learners

From the classroom observations it also appeared as though the teachers were trying, though some did struggle a bit as they were so used to doing everything and the learners just being passive, which is to be expected when they used the FOCI to get the learners actively involved as is evidenced by what was recorded in the observation schedules. In my observations, I noticed that teachers were not giving the learners enough time to engage with the activity or even to formulate their ideas and some even become a bit upset when the

learners did not answer in English. The learners seemed a bit apprehensive to talk openly in English and it appeared that the teachers did not have any practical strategies to encourage them to respond in English. Most learners responded more spontaneously when mother tongue was used. Some teachers did make concerted efforts to let the learners respond in English, their medium of instruction. This spontaneous response was also noted in my research journal entries that getting learners to openly respond in English was a near impossibility, but as the research process progressed and the teachers became more confident with using the strategies within the lessons, activities and the assessment opportunities of the FOCI, the learners were slowly starting to both respond and then translate what they meant in English. This was evident in most of the observation sessions where many of the classrooms had classroom chatter while they were engaged with the FOCI and the teacher translated what the learners were saying to me.

In the journal I also noted that many teachers were saying later into the research process that many learners just never seem interested to get involved and that they honestly did not blame them as they believed that they were teaching much in the same way in which they were taught, but that they were now really trying their best to make some changes to their teaching strategies. Many felt that both they and their learners needed to be stimulated, and saw the FOCI as a way to do so. As one teacher put it, ‘ now I also know how to stimulate and motivate my learners to try new things as I now have some understanding of how to do things differently in my class, and I even think that the kids are starting to like me again and even I am starting to like them’.

In the observations I noted that teachers were very eager to show me how they were actively engaging their learners while using the FOCI. This was quite different to their attitude with my first classroom follow up support sessions where teachers were very embarrassed and very apologetic about the quality and content in the learners’ files. What I found interesting was that most of the teachers kept the learners’ completed work to show me. Some teachers did this by sharing some stories with me during the observation sessions regarding a change in the level of the learners involvement and performance of otherwise very passive learners, ‘Let me show you some of the kids’ books who did not budge in my class and did not even make an effort to do anything and who are now amongst my best workers who can even help others in

my class'. Another teacher, while showing me her learners work said the following, 'Let me show you another one, kyk gou na hierdie ou se wetenskap ler, die kind was 'n probleem en ek se jou daar was een salf om aan hierdie ou te smeer nie. He normally would just watch the others work and not engage at all, but once we got to the second activity, skyf meneer nader and the rest is history soos hulle mos se, I guess the learning programme not only made a believer of me but of him as well'.

Allowing for individuality

What I also witnessed during the classroom visits and observation sessions was that teachers were trying very hard to shift from demanding that the learners all work in a certain way to allowing for individuality.

This practice seemed to almost make teachers think more about what they were doing in their classroom as is evident by this observation of the one of the research teachers' classroom interaction with a learner who did not feel comfortable working in the group activity that was given to the class, yet she accepted and acknowledged his individual work and I believe she used this strategy to make him feel safe to now work in a group. She had also previously told me that she had difficulty working with him. She related to me that, 'before I did not know who was more depressed and bored of the same old same old', herself or the learners. 'Did you see Thulani's drawing class, as you all know Thulani does not say much, but today I would like Thulani to tell us what his drawing means because I think his was the most expressive. I witnessed the death of silence and shock when Thulani got up, took his drawing from his teacher and started explaining to the class what his drawing meant. After the lesson, I noted in the research journal that the teacher had told me, that she was shocked out of her mind and was so thankful that she had found an opportunity for this boy to also participate for the first time with the rest of the class, but as an individual, so thank you, one of your strategies from the learning programme, MADE THULANI SPEAK!

Another instance of individuality being acknowledged was observed in the classrooms when teachers decided to do assessment tasks with the learners. From one activity some of the more confident teachers allowed the learners a choice in how they would be assessed. Therefore some learners in the class were given the option of either drawing their information,

summarizing their information in a paragraph or talking about their information, all of which were suggested assessment strategies within the FOCI. This individuality of assessment was facilitated by the fact that teachers had the assessment strategies with their criteria up on posters in their classrooms.

I also noted in the research journal, that I noticed from the teachers' assessment recordings that although teachers allowed for individual choice of assessment strategies, the learners were still given a spread of possible assessment strategies. What this meant was that if a learner had chosen to be assessed by their drawings the next time the teacher would expect the learners to choose and use a different assessment strategy. Therefore the more confident teachers were balancing their learners' assessment.

7.2.2 Teachers Classroom Practice

With regards to this theme four categories emerged, namely, practicing more flexible teaching and assessment strategies, incorporating their own developed work with the learning programme, showing their colleagues how they teach and assess and integrating their teaching.

Display of learners' work

During some of the classroom observations it was evident that teachers were making a concerted effort to enhance the classroom environment by displaying the learners completed tasks. During the first classroom follow up support sessions, I noticed that if there was anything on display very little of it comprised learners' work. By the time of the classroom observation session much more of the activities that the teachers were using from the learning programme was being displayed. This was an indication that teachers were implementing the FOCI and trying some of the suggestions that they themselves had generated during the participatory inset workshop sessions. Further evidence of the implementation of the FOCI was also the display of assessment and recording strategies. During these observation sessions, I noted that many of the teachers had made posters of the various strategies with which to assess their learners. These posters contained the assessment criteria of the various assessment strategies so that the learners had immediate access to what was expected from them when engaged in an assessment task. This evidence was also being echoed in the

following responses by some of the research teachers that, 'My learners and I know exactly what is expected when we are doing an assessment task as you can see my assessment posters are up on the wall as well as the coding scale'. This is a major shift from their current practices that was often veiled with non-disclosure and or only the teacher possessing privileged knowledge regarding what the learners should know and about their learners progress.

Practicing more flexible democratic teaching and assessment practices

In my observations, I noticed that some teachers were making concerted efforts towards more democratic teaching and assessment classroom practices while others were struggling a bit as my journal entries illustrates. Some teachers were implementing the FOCI with obvious careful thought while others were just teaching the lessons from the FOCI in a rigid automatic way without even thinking about what they were doing. Those teachers who were obviously thinking about what they were doing said for the first time in a long time, they are now really starting to think about what they are doing with their learners every time they work from the learning programme.

This was evident in the different strategies I observed some teachers using while engaging their learners with a lesson or an activity from the FOCI. It also appeared that these teachers were really thinking about what they were doing as some mentioned during the observation sessions that both they and the learners were learning. The observation sessions also revealed how some teachers were able to change some of the activities to better suit their learners and to make their own additions. It was also evident that this confidence to change and incorporate their own activities was giving teachers the confidence to take the time to also think about how best to assess their learners.

The observations also revealed that the majority of the research teachers were able to easily follow the directions of the lessons and activities suggested to them how they could possibly both teach and assess the lessons and activities while others needed more guidance to do so. Those teachers who could easily follow the suggestions seemed to implement the FOCI with ease and their learners really had fun with them, while the others struggled a bit which also affected the way in which the learners responded both to them and the activities. The teachers

that were struggling, which turned out to be three of the twenty research teachers simply resorted to implementing the FOCI in the way that they had always taught which defeated the purpose of using the FOCI, but they were still interested in coming to more workshops and definitely asked for more classroom support. These teachers were therefore open enough to tell and show me that they were struggling but were not going to give up.

Another observation was that, many of the teachers were so stuck in their ways that even some of the really strong and confident teachers in one or two instances during the observation sessions fell into the old demanding ways, like not waiting for the learners to answer their questions or rushing the learners to complete a section of the activity but then very quickly rectified it and even apologized to the learners.

The research journal also reflected some of the frustrations that the teachers were feeling as a result of the poor performance of their learners and many thought 'what the hell' as many mentioned and just tried the FOCI because many of them had no other teaching resources besides their old textbooks.

As one teacher said, 'let me tell you, no let me show you, see old way and kids results, learning programme way and even my weakest learners are producing work of a better standard so something must be ok about these learning programmes and I guess it all boils down to attitude and the willingness to try new ways of working with kids and not just giving up. I am glad I did not give up on my kids'.

During the observation sessions it became evident that some teachers were showing a willingness to experiment with a variety of assessment strategies and others wanted more assistance in their own understanding of the different assessment strategies before they tried it in their classrooms. The observation sessions and the research journal revealed that the implementation of assessment was the one aspect of the FOCI that some teachers still did not feel confident enough to deal with. This did not mean that these teachers did not implement the assessment strategies, but that some of them only implemented the assessment strategies that they felt confident enough to use with their learners while the majority of the teachers attempted the range of assessment strategies as suggested in the FOCI.

As noted in the research journal, even the more confident teachers admitted to clinging to some of their old assessment practices but after the workshops they had started to think very carefully that it was also about the learners in their classrooms. Now they are starting to involve their learners, and since doing so they were noticing how their learners are working differently especially when it comes to assessment tasks. So, they are trying and it was hard to let go of always being in charge of the teaching, learning and assessment. Most of the research teachers also related that now both the learners and themselves seemed to be sharing control and how this seemed to build trust between teacher and learner.

Many teachers were therefore implementing the suggestions from the FOCI and putting up the assessment criteria and, together with their learners, they were deciding what and how to assess and code the assessment tasks. Therefore as observed many of the teachers are using a variety of assessment strategies and the learners seem eager to be assessed as they know their teachers are not just going to assess them in only one way and one teacher even reported that it seems to have also dropped the absentee rate when doing this kind of assessment at their school. Teachers were also commenting during the observation session that, ‘these assessment strategies makes our lives easier at school if we are all doing assessment in a similar way to suit the levels of our learners per grade to make sure that we are setting a good standard of teaching, learning and assessment at our school’.

Another teacher also mentioned, ‘Now that I have a few assessment strategies up my sleeve and practical examples to practice with, I feel better equipped and able to play around with and implement it in the best possible way to cater for the different ability of learners that I will always have in my classroom’. During the observation sessions it therefore seemed that complementing the open classroom environment was that the teachers were practicing more flexible and democratic teaching and assessment strategies through the use of the FOCI. This also seemed to enable teachers to start shifting from their traditional teaching methodologies to more flexible teaching and assessment practices.

Expanding teachers’ teaching repertoires

During the observation sessions it emerged that three of the twenty research teachers who appeared less confident when implementing the FOCI in their classrooms were implementing

it within their usual style of teaching which was very rigid and inflexible. The more confident teachers had changed some of the activities and were also incorporating some of their own lessons and activities with the FOCI.

It emerged that a few of the more confident teachers had actually tried out their lessons in front of some of their colleagues whom they asked to come and observe them in their classrooms. It was also noted in my journal that some of them had enjoyed these demonstrations so much that they offered to do it in their colleagues' classrooms as well. This was therefore starting a practice of teachers doing demonstration lessons in each other's classrooms at some of the research schools. As one teacher put it, 'I do not mean to sound like a show off but we actually ask one another to come and watch what we are doing and it is always great for your colleagues to watch you pull off a great lesson like this one that you have just seen. From the observations it was also becoming evident that while practicing these changed classroom practices teachers were also gaining a new found enthusiasm evidenced in this teacher's comment during the observation session, 'because I am the principal, the kids have a perception about me and I can not tell you how good I feel to watch how these kids are now responding to my teaching when I use the learning programme'.

Integrating FOCI concepts across the curriculum

It also seemed that when using the FOCI teachers were being provided with practical opportunities for integrating between their other learning areas. During the classroom observation sessions some teachers were demonstrating how they were starting to integrate their natural sciences classroom teaching practices with their other learning areas so that they were no longer only teaching in individual discreet learning areas. On the observation schedule I noted that some teachers were using parts of the natural sciences activity to develop the language capacity of the learners. This was done as the medium of instruction was English and Xhosa was the mother tongue of the learners. The teachers also showed me how the learners' files that contained the activities from the learning programme almost always incorporated some written activity that was completed during the English language period. This integration was not only limited to the teachers' classrooms but also extended to integrating work with their respective colleagues in their particular grades as well.

It therefore seemed that by using the FOCI that teachers were also being enabled to start experimenting and practicing integration of their various learning areas compared to the discreet and individualistic manner in which they had always presented their different subjects before.

8 ANALYSIS AND INTERPRETATION

This study sought to investigate,

1. how the participatory model enabled teachers to begin engaging with change according to their self-reported reflections;
2. teachers' descriptions and perceived reflections of the extent to which the FOCI facilitated a process whereby they could begin to change their classroom practice;
3. the extent to which a participatory inset intervention model in a supportive environment would succeed in incorporating processes that acknowledge teachers as people first and foremost, and then as professionals.

Current inset models, as described in the literature, tend to fall within two broad categories. The first type, namely, academic theoretical models, focus on improving teachers' academic qualifications; while the second type, school competency models, tend to pay attention to classroom practice and means of improving teachers' pedagogical practices. While both models seem to cater for particular teachers' educational needs (academic and wide-ranging classroom strategies), they do not seem to acknowledge what Sikes (1999) suggests as a very important key component of teacher development during a time of change, specifically, an wholistic acknowledgement of teachers as people. Another shortcoming of both models is that they seem to make assumptions about teachers perceived needs and do not pay attention to teachers' voices and teachers' *real* needs. Embedded in understanding teachers' *real* needs is acknowledging that they are people who have fears and anxieties that manifest during a time of change. If these fears are not addressed within inset models of training, any suggestions towards implementation will not always be met with success. Fullan, (1993) also supports this notion of acknowledging teachers' personal fears and suggests that it should be a key consideration as teachers reconceptualise themselves as professionals so as to enable and facilitate change.

This study sought to examine the extent to which a participatory inset intervention model in a supportive environment would succeed in incorporating processes that acknowledge teachers as people first and foremost, and then as professionals. This meant that the model needed to provide opportunity for teachers to share their personal fears, their experiences as well as knowledge of the subject. While issues of fear and anxiety were not explicitly addressed, the participatory nature of the model provided a context in which these issues could be addressed within a supportive environment. The data revealed that this cohort of teachers found the model *enabling* in that it provided opportunities for them to develop collaborative relationships within and between schools as well as with the in-service provider in ways that lessened the fear of implementation. Teachers were *willing to share* what they were doing with other teachers and to open their classrooms to observations by the researcher and colleagues, something that they would not generally voluntarily do. Teachers displayed a positive *shift in attitude*, seemingly as a result of the way in which they were being *acknowledged* during workshop sessions.

Valuing their contributions during the development phase of the FOCI (the workshop sessions) created the space for teachers to gain *confidence* as people and professionals who had a *contribution* to make. They commented on how their professional lives had *improved* at school as a result of their own development during the workshop sessions. The processes during these workshop sessions enabled teachers to contribute *meaningfully* to the development of the FOCI that they then implemented. Upon returning to their respective schools, other members of staff acknowledged what these teachers brought from the workshops as useful and *worth emulating*. The research teachers, in turn, felt that their voices were being heard and that they were indeed making a valuable contribution.

Another perceived contribution of the model is that it provided opportunity for teachers to be *co-creators* of material, the ‘tangible’ they needed to mediate the transition from policy into classroom implementation. The new curriculum requirements expect teachers to curriculate and develop materials, a new role they seem to find intimidating. This model gave teachers opportunity to develop materials with in-service providers rather than be handed material developed by ‘experts’ for them, to be merely the implementers. This process in itself gave teachers confidence that seemed to extend beyond creating science materials to include planning learning opportunity in other learning areas, exploring alternative assessment

strategies and working co-operatively within and between grades. This was demonstrated by teachers' perceived engagement with the curriculum and assessment planning in their more open discussions about their classroom and assessment practices, what they were struggling with and even opening their classrooms to their fellow colleagues. The participatory process model therefore seemed to provide an illuminating practical template for how things could be done.

According to Cuban (1988), teachers need to be equipped with first order change innovations that add value to what is already being done in their classrooms. In the case of this research, the FOCI was an example of a short learning programme on matter and materials for grade 6 developed with teachers for classroom implementation. These first order change innovations should not alter the role expectation of the teachers and the learners if it is to be of any use. In the case of this research, the FOCI was intended both to add value and to assist teachers to implement change by engaging the teachers in a participatory inset model while using a FOCI.

Implementing the FOCI seemed to enable the teachers to concentrate on what they were *actually* doing rather than on what they were *expected* to do. The FOCI seemed to provide 'practical ideas' that they themselves had developed and understood. Having a 'tangible' enabler seemed to act as a diversion from focusing on change as the focal concern to the implementation of a learning programme, a small step towards change. It seemed to create *optimism* in teachers, that is, that they could see the possibility of engaging in this change process. Rather than paying attention to the 'big picture' of C2005 teachers seemed to understand that this FOCI, was a first step towards implementing change, and that this first step was practical and manageable. The FOCI therefore provided the teachers with both the vital teaching, learning and assessment process as well as the science content that they could either use as provided or adapt, reshape, extend, rearrange, refine or rewrite depending on their level of confidence during the implementation process in class.

While the study cannot make claims about teachers' predispositions to change nor about the sustainability of their classroom practices, it appears from this research that the participatory process model and the FOCI seemed to work in the context of these research teachers by

offering them opportunities for *teacher development that considered their perceived needs* and went some way in addressing them by engaging teachers in a participatory process while using a FOCI.

9 CONCLUSIONS

This study cannot make grand claims regarding teachers and change but hopes to contribute in suggesting possible suitable strategies for inset provision.

The study results indicate that this cohort of teachers were coping with the implementation of a learning programme co-developed within a participatory inset model and provides evidence of how relevant and useful a carefully thought through and co-developed teaching, learning and assessment resource can be for teachers at a time of curriculum change.

Participatory practices, by definition, involve working with people, with the explicit purpose of empowering them. What the model provided was a space for this cohort to bring their own experience, knowledge and classroom strategies as well as their fears and challenges ‘to the table’ so to speak. Co-creating and sharing within a supportive inset process offered teachers the opportunity to work through their own fears and observe the gains of sharing openly.

More significantly though, this process provided teachers with a model of collaboration that they could replicate at their respective schools. They initiated a shift from individual to collaborative working spaces and credited the participatory model as the catalyst for this change. Professional respect and acknowledgement was a positive consequence of the model. By implication therefore, it would seem that any model that pays attention to preserving teachers’ integrity as professionals (acknowledging their experiences and knowledge) while enabling them to engage with change, will go some way in ensuring a smoother transition of the change process.

Another insight highlighted in this research was the use of a product to bridge the gap between policy and classroom practice. What seemed to attract teachers to the model was firstly its participatory nature, but more importantly, the result of the process- a resource they could use in the classroom. What the resource appeared to do was shift the emphasis of the

change process. Teachers, it would seem, paid attention to implementing the learning programme rather than concentrating their energies on the broader issues surrounding the new curriculum change, thus minimizing the intensity and fear surrounding innovation and change. The FOCL, an example of a short learning programme on matter and material for grade 6 (the product), seemed to work as that first step in the change process. Teachers attitudinal changes were a key manifestation that the ‘tangible’ provided was indeed a useful ‘support’ to bridge the gap.

What this study makes explicit is that if teachers are acknowledged as active participants in inset processes they are predisposed to engaging with change more readily. Moreover, if this process includes a co-creation of something ‘tangible’ that teachers can use in the classroom, their attitudes seem positively influenced making them disposed to the *zones of possibility* and the *doability* of the change initiative.

10 RECOMMENDATIONS

- Any inset provision has to pay attention to teachers’ fears and anxiety surrounding change. Selecting a model that concentrates on teachers as people might provide the vehicle to do so in an unobtrusive way, as this study illustrates.
- The dialectic relationship between the process and the product should be a critical component of any inset programme. Engaging teachers in a participatory process in and for itself, without a product to use in the classroom, is counter-productive.
- The ‘tangible’ co-developed learning programme should ensure that it adds value to what teachers are currently doing in the classroom without drastically altering roles and expectations. Drastic change at the initial phase of an innovation might debilitate rather than facilitate the change process.
- Inset models should pay as much attention to teachers’ real needs (personal and classroom), as to the implementation of policy. A participatory model, as this study illustrates, goes some way in providing this balance.

- Teachers' knowledge and experience needs to find expression in any inset process. This might serve as a catalyst to build confidence and re-professionalise teachers and make them active contributors within the innovation.

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12 APPENDICES

University of Cape Town

APPENDIX ONE

WORKSHOP EVALUATION FORMS

University of Cape Town

WORKSHOP EVALUATION FORMS

THE PSP VALUES COMMENTS AND OPINIONS OF ALL TEACHERS THAT PARTICIPATE IN OUR COURSES. WE TAKE YOUR VIEWS VERY SERIOUSLY IN ORDER TO MEET YOUR PROFESSIONAL NEEDS.

1. Can organising your work into the four science themes assist you in your planning process. EXPLAIN

2. Do you feel that you will now be able to engage in the planning process at your school.

3. Do you feel that you will be able to teach this Learning Programme in your class?.

4. Do you feel you can plan your own worksheme to teach this Learning Programme in your class ?

5. Do you have more clarity regarding the different assessment strategies that you can use with your learners.

6. How useful was it to have gone through the examples of lessons, activities and assessment strategies in the Learning Programme ?

7. During the workshops we have tried to model possible classroom implementation and reflection. How useful was this for you ?

COMPLETE the table using the following rating scale

RATING SCALE: 1= Of little value

2= Fair

3= Reasonable\helpful

4= Interesting\will definitely use in class

SESSION	RATING	COMMENT
1.Unpacking the themes		
2.Activities		
3.Assessment		
4.Modelling classroom implementation		
5.Resources provided		

DID THIS COURSE MEET YOUR NEEDS?

APPENDIX TWO

SEMI-FORMAL INTERVIEW BEFORE CLASSROOM OBSERVATION

University of Cambridge

**Interview before using shared criteria observation schedule
used during classroom support visits after the 5, 2 hr workshop
sessions**

- B Do you find organising your science content into the 4 themes useful?
- B How did you organise your content before?
- B Was this useful?
- B Is the workshop methodology new to you?
- B Would you try the workshop methodology in your classroom?
- B:D Is the structure of the activities used in the workshop new to you?
- B:D Is the workshop assessment strategies new to you?
- B:D Would you try the workshop assessment strategies in your classroom?
- B Do you think the teaching and learning resources are necessary? Why?
- B Is classroom follow up necessary?

APPENDIX THREE

SHARED CRITERIA OBSERVATION SCHEDULE

University of Cape Town

SHARED CRITERIA LESSON OBSERVATION SCHEDULE

CATEGORY	EVIDENT/ NOT EVIDENT	COMMENTS
A. <u>CLASSROOM ENVIRONMENT</u>		
1.a. The degree of teacher participation and involvement		
b. Does the teacher stimulate curiosity with learners in any way?		
c. Does the teacher draw on and use everyday existing knowledge?		
d. Does the teacher create the space for learner participation?		
2. <u>CLASSROOM ORGANISATION (RESOURCES)</u>		
a. Does the teacher make use of the supplied teaching and learning resources.		
b. Does the teacher use extra resources eg.(textbooks, magazines, newspapers)		
3. <u>CLASSROOM MANAGEMENT (ACTIVITIES)</u> Are the learners arranged in groups , pairs or work individually as suggested by the learning programme.		
B. <u>TEACHERS PRACTICES</u>		
1. Is there any evidence of planning ?		
2. Is there any evidence of using the provided materials as suggested during the workshop sessions?		
3. Is the teacher flexible when using the provided materials ?		
4. Does the teacher give clear instructions and makes sure that all the learners understand what is expected from them ?		
5. Does the teacher use the provided materials with relative ease ?		
6. Does the teacher give the learners more than one opportunity to engage with the activity ?		

CATEGORY	EVIDENT/ NOT EVIDENT	COMMENTS
7. Does the teacher extend the activity in any way ?		
8. Does the teacher try to develop some attitudes , skills and knowledge during the lesson ?		
C. <u>LEARNER PARTICIPATTION</u>		
1. Do the learners engage easily with the given activity ?		
2. Do the learners engage with ease with the assessment ?		
3. . Are the learners given the opportunity to engage with the activity in their mother tongue ?		
4. Do all the learners engage with the activity during the lesson ?		
5. Do the learners communicate freely with each other while engaging with the activity ?		
.D. <u>ASSESSMENT</u>		
1. Does the teacher give the learners a clear understanding about what is going to be assessed ?		
2. Does the teacher assist the learners to achieve the expected outcomes of the lesson ?		
3. Does the teacher make explicit what exactly will be assessed ? eg. A concluding paragraph		
4. Does the teacher make explicit how it should look ? Eg. a heading , sentences must make sense , relevant to the given topic , logical order , the use of key words , etc.		
5. Does the teacher engage the learners in the use of other strategies of assessing ? e.g. orally explaining		

APPENDIX FOUR

SEMI-FORMAL INTERVIEW AFTER CLASSROOM OBSERVATION

University of Cape Town

**Interview after using shared criteria observation schedule
used after the classroom support visits as determined by the
educator**

A:B Did you enjoy the teaching experience?

A:B What did you enjoy about it?

B Would you do anything different if you had to teach this lesson again?

C Do you think the learners enjoy the lesson?

C Why do you say so?

D How did you choose to do your assessment?

D Were you comfortable doing it?

D Would you assess the lesson differently if you taught the lesson again?

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